2012
OWNER'S
MANUAL

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V-SERIES

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SALTWATER SERIES

MasterCraft

Welcome Aboard!

Congratulations on your boating choice! MasterCraft is the recognized world leader for inboard boats today and has been for over forty (40) years. The quality, innovation, selection and value of MasterCraft boats are unmatched in the industry.

Please take a few minutes to read this Owner's Manual completely in addition to carefully reviewing any additional information provided in the accompanying packet. These publications will help to answer most of the remaining questions you may have regarding the new boat. If you have any additional questions after reading these items publications, please feel free to speak with your dealer. MasterCraft wants you to feel comfortable with your boat (and trailer, where applicable) from the very beginning of your experience as an owner of our products.

All information in this Owner's Manual is based on the latest product information available at the time of printing. Because of our policy of continuous product improvement, we reserve the right to make changes at any time, without notice, in specifications and models, and also to discontinue models. We also reserve the right to change specifications, parts or accessories at any time without incurring any obligation to equip the same on models manufactured before the date of the change. MasterCraft recommends checking www.mastercraft.com periodically, specifically the Knowledge Center, for updates and additional information.

Due to changes in specifications, models, parts and/or accessories that may occur after publication of this Owner's Manual, the Owner's Manual may not cover every circumstance that may arise in owning and operating a boat. Also, the illustrations used in this Owner's Manual are intended only as representative reference views and may not depict actual model component parts. Information regarding certain on-board components furnished by suppliers other than MasterCraft, including the engine and power train components, is provided separately by the manufacturers of those components. This information is available through your dealer. A reasonable effort has been made by MasterCraft and its suppliers to provide the applicable information required to ensure a long-lasting and enjoyable boating experience.

Throughout this manual the terms "Danger," "Warning," and "Caution" appear, alerting the boat owner and/or operator to dangerous or potentially dangerous situations that may arise. Those terms have the following respective meanings whenever they appear herein:

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER **DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.**

WARNING **WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.**

CAUTION **CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.**

CAUTION **CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.**

Failure to adhere to and comply with the safety dangers, warnings and cautions that appear in this manual can lead to serious illness, injury or even death and/or damage to your boat or the property of others. Beyond these warnings, boaters have a personal responsibility to utilize a common sense approach to the boating experience, including keeping individuals off or near the swim platform and the stern area of the boat during the engine operation. Personal flotation devices ("PFDs") save lives and ensure positive experiences. **MasterCraft offers many proactive approaches to the boating experience, but the consumer is ultimately responsible for the positive and safe involvement in boating.**

Be sure to review the *Boating Safety* section of this manual, which immediately follows this section. Because of the importance of these dangers, warnings and cautions, they are reprinted here, along with the pages on which you will find them. Please note that the safety information statements presented below are categorized for information purposes only, and are not presented in any particular order of importance. Each of the statements referenced below and in the other sections of this manual provide you with important safety-related information and must be read and followed to avoid injury or damage, as applicable. We strongly encourage you to cross-reference and read the dangers, warnings and cautions within the context in which they are presented by reading and reviewing those sections.

DANGER

Failure to comply with safety-related information and instructions may result in serious injury or death to you and/or others. Always use common sense when operating the boat or participating in any activities associated with the boat, including, but not limited to, periods of time when the boat engine is shut down and the boat is not in operation. *(Page 1-7)*

Following the activation of the automatic fire suppression system or a hand-held fire extinguisher, a careful determination should be made as to whether the boat can safely be operated. If there is any doubt or concern whatsoever, the boat should be towed to shore and/or dock for service by an authorized MasterCraft dealer prior to operating again. Failure to follow these instructions could result in death or serious injury/illness. *(Pages 1-4)*

Opening an engine compartment when there is indication of a fire inside can cause the fire to flare up and/or spread, which may result in extensive damage or even sinking of the boat and/or serious injury or death to people on board. *(Page 1-4)*

Gasoline is highly flammable and its vapors may ignite, resulting in fire or explosion. Be sure to keep all sparks and flames away from the area while inspecting the boat's fuel system. *(Page 4-13)*

Gasoline is explosive. If a gasoline odor is present or gasoline is visually observed in the bilge area during inspection, DO NOT START YOUR ENGINE! Remove the ignition key from the ignition switch and call an authorized MasterCraft dealer for service. *(Pages 3-2, 4-19)*

Gasoline is extremely flammable and highly explosive under certain conditions. Always stop the engine and never smoke or allow open flames or sparks within fifty (50) feet of the fueling area when fueling. *(Page 3-2)*

Before starting the engine, open the engine compartment and check for gasoline fumes, fuel and oil leaks or the presence of fuel or oil in the bilge. *(Page 3-6)*

Take care not to spill gasoline. If gasoline is spilled accidentally, wipe up all traces of it with dry rags immediately and dispose of properly on shore. *(Page 3-2)*

To prevent a possible explosion, operate the blower for at least four (4) minutes before starting the engine and always when at idle or slow-running speed. Explosive gasoline and/or battery fumes may be present in the engine compartment. Failure to do so may result in serious injury or death! *(Pages 3-6)*

Carbon monoxide is a colorless, tasteless, odorless and poisonous gas that accumulates rapidly and can cause serious injury or death. Exposure to carbon monoxide can be fatal in a matter of minutes. Exposure to even low concentrations of carbon monoxide must not be ignored because the effects of exposure to carbon monoxide can build up and be just as lethal as high concentrations. Carbon monoxide from exhaust pipes of inboard or outboard engines may build up inside and outside the boat in areas near exhaust vents, particularly during slow-speed operations. STAY AWAY from these exhaust vent areas, which are located at the stern of the boat, and DO NOT swim or engage in any watersports or other activities in or near the stern area of the boat, including, without limitation, the swim platform and the rear sun deck, when the engine is in operation. Under no circumstances should the owner and/or operator allow persons to hold onto the swim platform while the engine is operating and the boat is in motion. These activities (sometimes known as "teak surfing" or "platform dragging," where the participant holds onto the swim platform and is pulled through the water, and/or "body surfs" immediately behind the boat) are extremely dangerous, highly likely to result in death or serious bodily injury, and are a misuse of this product. *(Pages 1-12, 2-65, 2-73)*

The safety switch lanyard must be attached to the operator whenever the engine is running. Failure to do so may result in death or serious injury! *(Page 2-31)*

Never override or modify the engine emergency safety shut-off switch in any way. *(Page 1-7)*

Do not tow more than two (2) persons at one time on a tow tower. The tow tower approved for use on your boat should be used only for water skis, wakeboards or recreational towables, and not for parasailing, kite flying or towing other boats. Do not add any attachments that are not approved for use on your MasterCraft boat. Do not climb on, sit on, stand on, jump off of or dive off of the tower. Never allow passengers to sit behind the tow rope attachment point. Never allow loose tow rope ends to dangle. Always be certain that all bolts are in place and tight before and during use. When the tower is up, watch for low obstacles such as tree limbs, bridges or power lines. *(Page 1-7)*

Information regarding the maximum number of people and/or additional weight to the boat is included in the Guide to Individual Models section of this Manual. It is the boat operator's responsibility to ensure that the boat is never overloaded. Too much additional weight may cause the boat to overturn or sink, which can result in serious bodily injury or death. *(Page 3-8)*

Boat operators should never attempt to duplicate operational skills of professional drivers. When such maneuvers fail, it can result in serious injury or death. *(Page 3-9)*

Failure to comply with the requirement of operating the blower for at least four (4) minutes before starting the engine may result in serious injury or death to you and/or others. *(Page 1-7)*

Carbon monoxide is emitted from the engine's exhaust system. Never run the engine without proper ventilation. Do not run the engine in a confined space or where fumes may be trapped. Do not run the engine when the boat is stationary in calm wind conditions. *(Page 2-35)*

Carbon monoxide is emitted from the engine's exhaust system. Never run the engine without proper ventilation. Do not run the engine in a confined space or where fumes may be trapped. *(Pages 2-71, 2-74)*

Following the activation of the automatic fire suppression system or a hand-held fire extinguisher, a careful determination should be made as to whether the boat can safely be operated. If there is any doubt or concern whatsoever, the boat should be towed to shore and/or dock for service by an authorized MasterCraft dealer prior to operating again. Failure to follow these instructions could result in death or serious injury/illness. *(Page 2-70)*

WARNING

DO NOT launch or operate the boat if any problem is found during the Safety Check. A problem could lead to an accident during the outing, resulting in death or serious injury. Any and all problems should receive attention immediately. See your authorized MasterCraft dealer's service department for assistance. *(Page 3-4)*

Battery electrolyte fluid is dangerous. It contains sulfuric acid, which is poisonous, corrosive and caustic. If electrolyte fluid is spilled or placed on any part of the human body, immediately flush the area with large amounts of clean water and immediately seek medical attention. *(Page 4-13)*

When charging, batteries generate small amounts of dangerous hydrogen gas. This gas is highly explosive. Keep all sparks, flames and smoking well away from the area. Failure to follow instructions when charging a battery may cause an electrical charge or even an explosion of the battery, which could result in death or serious injury. *(Pages 2-33, 4-13, 4-14)*

The engine box serves as a machinery guard. The engine must be OFF whenever the box is open. Clothing or body parts can get caught in moving parts, causing death or serious injury. Keep away from moving parts! *(Pages 2-67, 4-13, 4-14, 4-15, 4-16)*

Adding additional ballast to a MasterCraft boat is not recommended, and can result in impaired visibility, diminished handling characteristics and instability when operating your boat, and may result in potential structural and/or engine damage to the boat, which damage will not be covered by your warranty. *(Page 3-8)*

Use of improper parts may cause component or engine failure. Such failure may result in death or serious injury! *(Page 4-3)*

All boats have weight limits. Failure to adhere to the posted limits can cause operation instability and/or the boat to sink. This may result in serious injury or death, as well as significant damage to the boat, which will not be covered by warranty. *(Pages 1-12, 2-63)*

If the Plug 'n Play bags are removed from the boat, the plumbing plugs must be reinstalled in the boat to prevent unwanted and potentially dangerous intrusive of water into the boat. This water can result in the boat sinking, which can result in serious injury or death! *(Page 2-64)*

When boats are in motion, operators and passengers should always be seated on upholstered designated occupant seating. No other areas should be used during operation, including, but not limited to, the gunwales, towers, sun pads, engine boxes, or any area that is not clearly intended for seating while the boat is underway. People can become dislodged from locations that are not actual seating, which could result in injury during boat motion. *(Page 2-73)*

While operating attitude adjustment plates use caution. Improper use of plates can cause accidents, which may result in serious injury or death. While the boat is underway do not move one plate up or down significantly as this may cause listing. While at higher speeds do not over-trim, as this will cause the bow to lower quickly, resulting in a reduction of speed and may cause the boat to veer. When in following seas or when running an inlet, the plates should be fully retracted. This will allow for optimal performance. ELECTRO-MECHANICAL ACTUATORS PROVIDE AN INSTANT RESPONSE. WHEN MAKING ADJUSTMENTS, USE SHORT MOMENTARY TAPS OF THE SWITCH. *(Page 2-62)*

ELECTROMECHANICAL ACTUATORS PROVIDE AN INSTANT RESPONSE. WHEN MAKING ADJUSTMENTS, USE SHORT MOMENTARY TAPS OF THE SWITCH. (Page 2-64)

All boats have weight limits. Failure to adhere to the posted limits can cause operation instability and/or the boat to sink. This may result in serious injury or death, as well as significant damage to the boat, which will not be covered by warranty. WHEN THE PLUG 'N PLAY BALLAST BAGS ARE FILLED, THE ADDITIONAL WEIGHT OF THE BAGS AND WATER MUST BE SUBTRACTED FROM THE MAXIMUM WEIGHT CAPACITY OF THE BOAT , WITH THE REMAINDER LEFT FOR PASSENGERS AND GEAR! (Page 2-63)

Improperly stored anchors and/or anchor line that has been improperly re-wound, may create a hazardous situation. People on-board can trip on improperly stored materials, which can result in injury. Improperly stored materials can also move too freely during boat operation and make contact with individuals, again causing injury. Properly store all anchor and lines whether the boat is in operation or not, unless the anchor and line are in use. *(Page 2-69)*

The platform must be raised and locked into position for use of the platform while boating. No one should be allowed on the platform until the platform is securely locked in place and the engine is OFF. Failure to do so may result in serious injury or death! *(Page 2-65)*

MasterCraft has determined that for the tower utilized on the current models, the total weight of all accessories mounted on the tower should never exceed 85 pounds, regardless of whether the accessories are MasterCraft-approved and supplied or have come from an aftermarket supplier. Exceeding this restriction can result in tower failure, which could result in serious injury or death to the boat operator and/or passengers. *(Page 2-66)*

Engaging the engine synchronization functionality requires practice to master. Because the boat will be in gear and will move during the process, even after mastering the maneuver boat operators should synchronize engines only on bodies of water of sufficient size to accomplish the maneuver without making contact with other vessels or with inanimate objects, which could cause serious bodily injury or significant damage to the boat. *(Page 2-34)*

Ski/wakeboard rope should never be attached to anything but approved pylons and towers as it may otherwise break free or cause other items to break under duress. People onboard, as well as skiers and/or wakeboarders could be injured. Also, operators and passengers should always pay attention to the rope when the boat is underway as rope can snap back into the boat, which could result in injury. *(Page -2-64)*

Completely filling the fuel tank prior to storage and then sealing the fuel tank vent does not allow room for necessary expansion. This can result, in extreme conditions, in fuel tank rupture. Such release of fuel into the boat and potentially into the storage area could result in substantial damage to the boat and contact with any spark (such as a flame-producing pilot light in a heater) could also result in property damage and serious injury or death. *(Page 4-20)*

⚠ CAUTION

Be sure all fasteners used are approved and rated for marine use. Most fasteners used on MasterCraft boats are stainless steel or specially coated to resist corrosion. *(Page 4-3)*

All replaced fuel components must meet United States Coast Guard ("USCG") and American Boat & Yacht Council, Inc. ("ABYC") standards, and must be Underwriter's Laboratory ("UL")-approved. Inferior quality components pose a serious safety threat to you and others, and the use of inferior components may result in serious injury or death. Resulting damage may void the warranty. *(Page 4-19)*

Do not continue to run the engine if the oil pressure is low. If you do, the engine may become so hot that it, or surrounding components, could catch fire. You or others could be burned and the boat seriously damaged. Check your oil level and add an appropriate amount of approved motor oil before operating again or have your boat serviced by your local authorized dealer's service department. Note that damage to your engine from inappropriate oil levels can be costly to repair. Such damage is not covered by your warranty. *(Page 2-34)*

Some engine parts become very hot during operation. This inspection must be completed while the engine is cool to prevent burns to your skin. Perform this task before starting the boat.
(Pages 4-13, 4-17)

Towers should never have a total aggregate weight of accessories exceeding 85 lbs. (U.S.) total. Excessive weight can cause tower failure and the collapse of a tower or the disconnection of the tower from the deck, which could result in serious bodily injury or damage to the boat that is not covered by warranty. *(Page 1-7)*

Prior to operation of the boat, verify that the mirror hardware is secure. Failure to do so may result in the mirror detaching from the windshield extrusion. The mirror could hit the operator or a passenger, resulting in injury. *(Page 2-63)*

Convertible seat backs should always be in the forward-facing position when the boat is underway. Anyone seated facing aft could become dislodged when the boat is underway, which could result in sliding off the seating and making contact with the transom or swim platform. Jump seats should be secured against the deck with a lock pin accessible under the observer seat to avoid dislodging passengers while the boat is underway. Convertible seat backing should always be secured prior to use. Care should be taken to avoid pinching fingers or other skin when sliding the backing. *(Page 2-73)*

Always ensure that there are no people nor objects in the way when raising and lowering the tower. Individuals and their limbs may be subject to injury if caught in the path of the tower, as well as potential damage to the boat, which is not covered under warranty. *(Page 2-65)*

CAUTION

When boating, avoid using the windshield as an aid for balance or getting out of a seat. This causes undue stress to the window frame and could damage it, which may not be covered under warranty. *(Page 3-4)*

To ensure proper break-in and lubrication, boat owners should not remove the factory break-in oil until after the initial ten (10) hours of operation. At that time, an oil change should be performed on the Indmar engines by an authorized MasterCraft service technician at an authorized MasterCraft dealer. *(Page 3-5)*

DO NOT use the ski pylon or any portion of any tower for lifting. They are NOT designed to be used as a central lifting point. Also, DO NOT use the stern ski tow as a lifting ring. The deck may be damaged. See the *Storage Cradle* sub-section of this section. Also never lift a boat with water in the bilge or containing a water-filled device such as a ballast system or sack. The extra stress will put an excessive load on the hull and lifting equipment that may seriously damage the boat. Such damage may not be covered by the warranty. *(Page 4-2)*

Continued operation after the warning light has illuminated may cause severe engine damage. This will void your warranty. *(Page 3-7)*

Because of the complexity of preparing a boat for proper winter storage, as well as the possibility of extreme damage to the drive train if a preparation error was made during winterization, MasterCraft recommends scheduling an appointment with an authorized MasterCraft dealer's service department to permit a technician to perform all winterization procedures. *(Page 4-20)*

Add-on equipment may adversely affect the alternator output or overload the electrical system. Such damage may not be covered by the warranty. *(Page 4-13)*

Failure to follow the engine oil recommendations listed in the engine manual can cause additional engine wear and increase the possibility of engine component failure. Damage to the engine due to incorrect oil usage can be costly to repair, and is not covered by the warranty! *(Page 3-5)*

Allowing the fuel level in the fuel tank to fall below one-quarter of a tank full may affect the reliability of the fuel pump or result in damage to the fuel pump, which is not covered under warranty. *(Pages 2-35, 3-2)*

Damage to the engine by use of low-quality gasoline or gasoline with an octane rating below the minimum level listed will void the warranty on the boat. *(Page 3-3)*

Extended storage with fuel in the system can affect the fuel's stability and may require system inspection and fuel filter replacement when the unit is placed back into service. *(Page 3-3)*

Lifting slings must never contact shafts, struts or hardware protruding from the hull. Damage may result that would void the warranty. *(Page 4-2)*

When the boat is out of the water, it is important to support the hull correctly to avoid any hull damage. Such damage may void the warranty. *(Page 4-2)*

Crossing cables or jumper cables may result in damage to the electrical components due to incorrect battery connections. Such damages may not be covered by your warranty. *(Page 4-14)*

Attention must be paid to any leakage occurring in the propeller shaft log area. Water intrusion into the transmission, which can happen if excessive leakage is occurring may cause serious damage. Such damage may not be covered by the warranty. *(Page 4-15)*
Engines should always be operated within engine manufacturer guidelines. Failure to do so may cause significant damage to the engine and drive train and is not covered under warranty! *(Page 3-10)*

Continuing to operate the boat while the temperature is above normal operating parameters may cause serious damage to your engine. Damage to your engine resulting from operating the engine in an overheated condition can be costly to repair. Such damage is not covered by your warranty! *(Page 2-36)*

Exposure to salt water will cause corrosion leading to significant damage to stainless steel and chrome parts. Failure to thoroughly rinse salt water from all hardware, and to apply protective oil after each exposure to salt water, will accelerate the corrosion of hardware and will void your warranty. *(Page 4-3)*

The platform must be raised and locked into position for transportation of the boat, as well as use of the platform while boating. Leaving the platform down may result in damage to the boat transom during transport that will not be covered by the warranty! *(Page 2-65)*

Fuel systems on all boats MUST be properly prepared for storage periods exceeding two (2) weeks, as outlined in this Owner's Manual. Failure to do so will void the warranty. *(Page 4-21)*

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proline

Safety Knowledge

MasterCraft BOATS

Safety

Your safety, as well as the safety of others with and around you, is a direct result of how you operate and maintain your boat. You—and anyone who will be operating this boat—should read and seek to fully comprehend this Owner's Manual, and any additional information provided by component manufacturers and suppliers. Make sure that you understand all of the controls and operating instructions before attempting to operate the boat. **Improper operation is extremely dangerous!**

The basic safety rules are outlined in this section of the Owner's Manual. Additional precautions throughout the Manual are noted by the following symbols:

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

The precautions listed in this Owner's Manual and on the boat are not all-inclusive. If a procedure, method, tool or part is not specifically recommended by MasterCraft, using it may place you and others in an unsafe situation; in addition, you may render your warranty void. Remember: ***Always use common sense when operating, servicing or repairing the boat!***

Observing the safety recommendations found in this Owner's Manual is critical to keeping your boating experience as safe as possible during routine operation. Your failure to do so may result in severe personal injury or death to you and/or others. Use caution and common sense when operating your boat. Do not ever take unnecessary chances!

General Precautions

Be certain that all operators of your boat are aware of the safety information within this Owner's Manual and that they use it to conform to boat safety principles.

Boating safety starts with a thorough understanding of boat operations. In addition to careful review of this Owner's Manual, you should also be aware that many sources of helpful information are available. MasterCraft urges you to pursue additional training prior to the independent operation of your boat. However, training at any time from recognized boating and/or safety organizations is beneficial.

The following is a listing of a few agencies and organizations that offer safety training and/or information:

American Red Cross, National HQ
8111 Gatehouse Road, 6th Floor
Falls Church VA 22042
(202) 737-8300
www.redcross.org

U.S. A. Water Ski Association
1251 Holy Cow Road
Polk City FL 33868
(863) 324-4341
www.usawaterski.org

Boat Owners Association of the United States
880 South Pickett Street
Alexandria VA 22304
(703) 823-9550
www.boatus.com

National Safe Boating Council
2550 M Street NW, Suite 425
Washington DC 20037
(202) 296-4588
www.safeboatingcouncil.org

U.S. Coast Guard Auxiliary
2100 Second Street SW
Washington DC 20593-001
(202) 267-1001
www.uscg.mil

Safety Equipment

Federal law requires certain safety equipment to be on-board your boat at all times. Responsible boaters carry additional equipment in case of emergency. It is your responsibility to check with the local boating authorities for any additional requirements and/or equipment over and above the federal requirements.

Required Equipment

Your MasterCraft boat has been equipped at the factory with most of the federally required safety equipment for inland waters (Class II, 26-foot-to-40-foot watercraft). This equipment includes:

- ABYC-approved (American Boat & Yacht Club) marine mufflers with water injection;
- USCG-approved (United States Coast Guard) marine flame arrestor;
- USCG-approved engine box ventilation with sparkless power blower;
- ABYC-approved electric horn sound-warning device;
- USCG-approved inland lighting.

Fire Extinguishers

In all V-drives, the engine compartment is equipped with an automatic fire suppression system with a manual override that uses a clean agent canister, which is housed in the engine compartment and is integrated with the fire suppression system. The direct drive models are equipped with a fire port, into which the contents of a clean-agent canister can be released into the engine compartment.

Except as set forth below, you are also required by law to have on board one (1) five-pound, dry chemical fire extinguisher rated for Type A, B and C fires. The law requires that for all boats more than 26 feet in length, which includes the 280V and X-80 models, you must have on board two (2) five-pound, dry chemical fire extinguishers. The dry chemical fire extinguisher is standard equipment, which is automatically included in your boat from the factory. Replacement units can be ordered from MasterCraft.

If any of the fire suppression system canisters on board your boat are discharged (whether a canister in an automatic system or a portable fire extinguisher), then they must be replaced. If the automatic fire suppression system has been discharged on a V-drive model, that information will be indicated through the video display screen at the helm. If the clean agent canister associated with the automatic fire suppression system or the clean agent canister used in connection with a fire port has been discharged, then you must contact your authorized MasterCraft dealer to obtain a replacement for the clean agent type of canister. If the dry chemical fire extinguisher has been discharged, then you may purchase a replacement five-pound dry chemical fire extinguisher that is rated for Type A, B and C fires from an authorized MasterCraft dealer or from another source.

Fire extinguishers require periodic maintenance. Monthly, each fire extinguisher on your boat should be examined to be sure that the seals and tamper indicators are not broken or missing. The pressure gauges or indicators, if applicable, should read in the operable range. There should be no obvious physical damage, rust, corrosion, leakage or clogged nozzles. Additionally, if the extinguisher has not been used, it should be weighed annually to assure that the minimum weight as stated on the label still exists. Any fire extinguisher that has been partially emptied must be replaced or taken to a qualified fire extinguisher servicing company for recharging.

In an automatic/manual system, ensure the pin inserted to protect the system during transit from the factory has been pulled to activate the system. This is part of dealer preparation, but it is the responsibility of the boat owner to ensure that the system is functional.

Fire Suppression and Extinguishing (All V-Drives)

Automatic Fire Suppression

All MasterCraft V-drives are equipped with an automatic fire suppression system. The automatic system operates from sensors in the engine room and will automatically release a clean-agent, gaseous chemical that does not leave residue behind. In boats sold domestically, this is the FE-241 system; internationally, it is the FM-200 system.

It is also possible to activate the system manually on the FE-241 system only. Pull the pin shown in the photo left with the red tag , and then pull the red fire handle to set the system in operation.

In case of an engine compartment fire, shut down the engine and blowers before manual discharge, or immediately following the automatic discharge. Boats are equipped with a discharge indication light at the instrument panel or on the video display gauge at the helm.

After the suppression system has been used, the fire extinguisher canister will be empty. The boat owner/operator should have the canister replaced as soon as practicable.

V-drive boats have also been specified to carry a hand-held 2.5 lb. monoammonium phosphate expellant (dry chemical) unit, which is rated Class A (trash, wood and paper), Class B (UL Approved) and Class C (energized electrical equipment). These units should be used in situations other than engine compartment fires.

All V-drives are specified for one (1) dry chemical, hand-held extinguisher. This is in addition to the suppression system in the engine compartment.

Hand-held units should be replaced or recharged as soon as possible after use. Chemical discharge should be cleaned from all surfaces as soon as possible and prior to running the boat again, unless operation is necessary to return to shore.

The boat should never be operated following a fire until after a determination has been made whether operation may result in another fire. If any danger of an additional fire exists, the boat should be towed to shore or dock rather than running the engine(s).

Consumers who choose to purchase fire control equipment from resources other than MasterCraft must follow the instructions and requirements as listed within the engine compartment regarding suitability for the compartment volume. These standards are established by the ABYC.

DANGER

Following the activation of the automatic fire suppression system or a hand-held fire extinguisher, a careful determination should be made as to whether the boat can safely be operated. If there is any doubt or concern whatsoever, the boat should be towed to shore and/or dock for service by an authorized MasterCraft dealer prior to operating again. Failure to follow these instructions could result in death or serious injury/illness.

Top: FE-241;
Bottom: FM200

Fire Suppression and Extinguishing (ProStar 190, ProStar 197, X-7, ProStar 214 direct drive and X-14 direct drive)

These models are specified for two (2) fire extinguishers, both to be held in the void beneath the observer's seat. One unit is a hand-held 2.5 lb. monoammonium phosphate expellant (dry chemical) unit, which shall be rated Class A (trash, wood and paper), Class B (UL Approved) and Class C (energized electrical equipment). These units should be used in fighting all on-board fires other than engine compartment fires.

Hand-held units should be replaced or recharged as soon as possible after use, or after 12 years from date of manufacture. Any chemical discharge should be cleaned from all surfaces as soon as possible and prior to running the boat again, unless operation is necessary to return to shore.

The other specified unit is a hand-held fire suppression unit FM-200 (international boats) or FE-241 (domestic boats). The difference is that in domestic V-drive models the unit is not mounted in the engine compartment, and it must be manually operated (red bottle shown below).

In the event of any evidence of a fire within the engine compartment, DO NOT OPEN THE ENGINE COMPARTMENT (BOX).

DANGER

Opening an engine compartment when there is indication of a fire inside can cause the fire to flare up and/or spread, which may result in extensive damage or even sinking of the boat and/or serious injury or death to people on board.

Shut down the engine and blowers. Continuously discharge the entire contents of the FE-241 fire suppression unit through the fire port immediately.

Fire Port

On these models, the engine compartment is equipped with a fire port on the side of the engine box. In the event of a fire, insert the nozzle of the fire extinguisher through the fire port pull the safety pin and press the handle to release the clean-agent, gaseous chemicals inside the engine box.

The boat owner/operator should have the fire extinguisher canister replaced as soon as practicable.

The boat should never be operated following a fire until after a determination has been made whether operation may result in another fire. If any danger of an additional fire exists, the boat should be towed to shore or dock rather than running the engine(s).

DANGER

Following the activation of the automatic fire suppression system or a hand-held fire extinguisher, a careful determination should be made as to whether the boat can safely be operated. If there is any doubt or concern whatsoever, the boat should be towed to shore and/or dock for service by an authorized MasterCraft dealer prior to operating again. Failure to follow these instructions could result in death or serious injury/illness.

Personal Flotation Devices (PFDs)

Federal law also requires at least one wearable Type I, II, III or Type V Personal Flotation Device ("PFD"), for each person on-board or being towed on water skis, wakeboards or other recreational equipment. A Type V PFD provides performance of either a Type I, II or III PFD (as marked on its label) and must be used according to the label requirements. In addition, one throwable Type IV PFD must also be on board. **As the owner, obtaining the appropriate PFDs is your responsibility and determining whether people on-board , including those who are underage, are required to wear PFDs when underway.** Your MasterCraft dealer can, and will be happy to, assist you with your purchase of appropriate PFDs.

Note: Requirements for coastal waters and inland waters differ. Check with the local boating authorities for more information.

PFD Accessibility

- Wearable PFDs must be readily accessible in the boat.
- It should be possible to put on the PFDs within a reasonable amount of time in case of emergency.
- PFDs should never be stowed in plastic bags, in locked or closed compartments or have other gear stowed on top of them.
- The U.S. Coast Guard, as well as MasterCraft, recommends the wearing of PFDs at all times when the vessel is underway, even though it is not a requirement. The best PFD is the one that is worn–that is, the one that can save your life.
- Inflatable PFDs must have a full cylinder and all status indicators on the inflator must be green, or the device is NOT serviceable, and is NOT considered a usable PFD for anyone on-board the vessel.
- Coast Guard-approved inflatable PFDs are authorized for use on recreational boats by persons at least 16 years of age.
- Some states require children to wear PFDs at all times. Check with your state boating safety officials for details. Be certain to equip children with a PFD that is appropriate for the size of the child. The label will indicate the weight limits for use.

Sound Producing Devices

The navigation rules require sound signals to be made under certain circumstances. Meeting, crossing and overtaking situations, which will be described in some detail shortly, are examples of when sound signals are required. Recreational vessels are also required to sound signals during periods of reduced visibility. Your MasterCraft boat is equipped with a horn, but you may also purchase aftermarket devices in case of potential electrical disconnect or failure.

Note: The requirement to carry a bell on board no longer applies to vessels operating on International Waters.

Visual Distress Signals

All vessels used on coastal waters, the Great Lakes, territorial seas and those waters connected directly to them up to a point where a body of water is less than two miles wide, must be equipped with U.S.C.G.-approved visual distress signals. Vessels owned in the United States but operating on the high seas must be equipped with U.S.C.G.-approved visual distress signals.

Pyrotechnic visual distress signals must be Coast Guard-approved, in serviceable condition and readily accessible. This means that:

- They are marked with an expiration date. Expired signals may be carried as extra equipment, but cannot be counted toward meeting the visual distress signal requirement, since they may be unreliable.
- If pyrotechnic devices are selected, a minimum of three are required. That is, three signals for day use and three signals for night. Some pyrotechnic signals meet both day and night use requirements.
- Pyrotechnic devices should be stored in a cool, dry location, if possible. A watertight container painted red or orange and prominently marked "Distress Signals" or "Flares" is recommended.

U.S.C.G.-approved pyrotechnic visual distress signals and associated devices include pyrotechnic red flairs, hand-held or aerial; pyrotechnic orange smoke, hand-held or floating, or launchers for aerial red meteors or parachute flares.

Non-pyrotechnic devices may be allowed. These include an orange distress flag (day signal only) or an electric distress light (which is acceptable for night use). Use of these devices must still meet Coast Guard requirements, information for which is available online and from the Coast Guard.

Under Inland Navigation Rules, a high intensity white light flashing at regular intervals from 50-70 times per minute is considered a distress signal. Such devices do NOT count toward meeting the visual distress signal requirement, however. Regulations prohibit display of visual distress signals on the water under any circumstances except when assistance is required to prevent immediate or potential danger to persons on board a vessel.

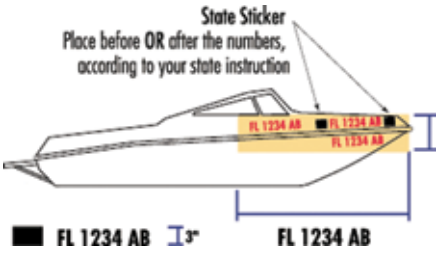
All distress signals have distinct advantages. No single device is ideal under all conditions or suitable for all purposes. Pyrotechnics are universally recognized as excellent distress signals. However, there is potential for injury and property damage if not properly handled. These devices produce a very hot flame and the residue can cause burns and ignite flammable materials.

Pistol launched and hand-held parachute flares and meteors have many characteristics of a firearm and must be handled with caution. In some states they are considered a firearm and prohibited from use.

Check with local authorities regarding the best visual distress signal for use in the area in which you will be boating.

Registration, Numbering and Documentation

Although it might not be immediately obvious as to how this relates to boating safety, in fact it can be critical in emergencies. All undocumented vessels equipped with propulsion machinery must be registered in the state of principal use. A certificate of number will be issued upon registering the vehicle. These numbers must be displayed on your vessel. The owner/operator of the vessel must carry a valid certificate of number whenever the vessel is in use. When moving to a new state of principal use, the certificate is valid for 60 days. Check with your state boating authority for registration requirements.



Numbers must be painted or permanently attached to each side of the forward half of the vessel. The validation stickers must be affixed within six inches of the registration number. With the exception of the vessel fee decal, no other letters or numbers may be displayed nearby. Lettering must be in plain, vertical block characters of not less than three (3) inches in height. Spaces or hyphens between letter and number groupings must be equal to the width of a letter other than "i" or a number other than "1."

The owner of a vessel must notify the agency which issued the certificate of number within fifteen (15) days if the vessel is transferred, destroyed, abandoned, lost, stolen or recovered, or if the certificate of number is lost, destroyed or the owner's address changed. If the certificate of number becomes invalid for any reason, it must be surrendered in the manner prescribed to the issuing authority within 15 days.

Operator's License

Some states are implementing operator's license requirements. These requirements vary widely. Whether operating a boat locally or in a remote location, operators should verify with state and local authorities regarding whether a license or training is required. This should be checked at least annually.

Recommended Equipment

The responsible boat owner will avoid potential problems on an outing by having additional equipment on board. Normally, the decision regarding the appropriate equipment to take on individual outings is dependent upon the body of water and the length of the trip. We suggest the following equipment as a minimum (your MasterCraft dealer can also assist you with additional recommendations):

- An anchor with at least 75 feet of line (in saltwater operation, particularly);
- A manual bailing device for removing water;
- A combination oar/boat hook;
- A day-and-night visual distress signal;
- A first aid kit and manual;
- An airway breathing tube;
- A waterproof flashlight;
- A non-electric horn or whistle;
- A set of local navigational charts;
- Mooring lines and fenders;
- Extra engine oil;
- A tool kit; and
- A portable, battery-operated AM/FM radio or weather radio/scanner.

Safety Afloat

The cause of many boating accidents is often the operator's failure to follow basic safety rules or written precautions. Many accidents can be avoided if the operator is completely familiar with the boat, its operation and can recognize potentially hazardous situations before an accident occurs.

DANGER

Failure to comply with safety-related information and instructions may result in serious injury or death to you and/or others. Always use common sense when operating the boat or participating in any activities associated with the boat, including, but not limited to, periods of time when the boat engine is shut down and the boat is not in operation.

- Improper operation of the boat is extremely dangerous! Operators must read and understand all operating manuals supplied with the boat, before operation.
- On-board equipment must always conform to the governing federal, state and local regulations.
- Always attach the engine emergency safety shut-off lanyard to a part of your clothing (such as a belt loop) when operating the boat.

DANGER

Never override or modify the engine emergency safety shut-off switch in any way.

- Never operate the boat while under the influence of alcohol or drugs.
- All persons must be seated in a designated occupant seating area while the boat is in motion. Never stand or allow passengers to stand in the boat or sit on the motor box or tower (where equipped), or ***any location other than occupant seating*** while underway. You or others may be thrown within or from the boat, which could result in serious injury or death. Never allow occupants to use sun pads or transom seating while the engine is running.
- Prior to starting the engine, you must open the engine box and check the engine compartment and bilge for gasoline and oil vapors. You must also operate the blower for at least four (4) minutes. Failure to do so may result in fire and/or an explosion.

DANGER

Failure to comply with the requirement of operating the blower for at least four (4) minutes before starting the engine may result in serious injury or death to you and/or others.

- **Never remove or modify any components of the fuel system. Removal or modification of any component of the fuel system may cause a hazardous situation and will void the warranty. The modern MasterCraft fuel delivery lines are pressurized and attempting to loosen or remove them may result in the uncontrolled release of fuel, which can be environmentally hazardous, and may potentially cause injury.**
- Never allow any type of spark or open flame on board. It may result in fire or explosion.

Skiing and Wakeboarding Safety

Skiers and wakeboarders are obligated to be as aware of the fundamental safety rules as operators. If you are new to water sports, you should seek certified training before starting. You may find it especially helpful to join a local water-sports club, if available, and the U.S.W.S.A. (United States Water Skiing Association).

- Always remember that the majority of water-skiing and wakeboarding injuries are the result of impacts with other objects, so always look where you are going and be aware of what is going on around you.
- Never put your arm, head or any other part of your body through the handle/bridle of the ski or wakeboarding line, nor wrap the line around any part of the body at any time.
- Never ski or wakeboard at night.
- Never ski or wakeboard directly in front of other boats.
- **When adding accessories to the tower, ensure that the total aggregate weight of the accessories does not exceed 85 lbs. (U.S.). Exceeding the limit may result in structural failure of the tower. MasterCraft strongly encourages the use of MasterCraft towers and accessories only as they have been tested and determined to meet product requirements, including weight.**

CAUTION

Towers should never have a total aggregate weight of accessories exceeding 85 lbs. (U.S.) total. Excessive weight can cause tower failure and the collapse of a tower or the disconnection of the tower from the deck, which could result in serious bodily injury or damage to the boat that is not covered by warranty.

- Never attempt to fold a manually powered tower without assistance. Folding a manually powered tower requires at least two (2) people. (The ZFT towers are not included in this group.)
- Never jump from a boat that is moving at any speed, nor enter or exit the water when the engine is running (ON). (See the *Common Sense Approach* section of this Owner's Manual for additional information regarding carbon monoxide peril.)
- Never climb, sit or stand on a tower. The tower is intended for towing only as noted.
- Make sure that everyone knows and uses approved skiing/wakeboarding hand signals and adheres to common skiing, wakeboarding and boating courtesy.
- Never ride on the ski platform or hold on to the ski platform while in the water during engine operation, including at idle. Carbon monoxide fumes are expelled from the lower transom areas of your boat and can cause death or serious illness.
- The above mandates are not all-inclusive. It is the boater's responsibility to operate the boat in a safe fashion and become familiar with any and all rules and regulations governing boat operation.

DANGER

Do not tow more than two (2) persons at one time on a tow tower. The tow tower approved for use on your boat should be used only for water skis, wakeboards or recreational towables, and not for parasailing, kite flying or towing other boats. Do not add any attachments that are not approved for use on your MasterCraft boat. Do not climb on, sit on, stand on, jump off of or dive off of the tower. Never allow passengers to sit behind the tow rope attachment point. Never allow loose tow rope ends to dangle. Always be certain that all bolts are in place and tight before and during use. When the tower is up, watch for low obstacles such as tree limbs, bridges or power lines.

Warning Plates and Labels

Read and note ALL warning plates and labels from bow to stern, including those that are installed inside the engine compartment, lockers and under seating. **YOU MUST READ AND ADHERE TO ALL CAUTIONS AND WARNINGS IN AND ON YOUR BOAT!**

Operator's Responsibilities

- Ensure the boat is in top operating condition and there are no hazards that impede your moving about the boat.
- Ensure the bilge is clean prior to starting.
- File a float plan, as described below, with a relative or friend.
- Have a complete knowledge of the operation and handling characteristics of your boat.
- Ensure that the boat is not loaded above the maximum capacity and that the load is properly distributed.
- Have familiarity with your starting location and your goal, and the waterways between.
- Maintain a safe speed at all times to avoid collisions.
- Keep an eye out for changing weather conditions and respond accordingly.
- Know and practice the navigational rules. Know and obey all federal and state regulations and operate the boat properly around all waterway markers.
- Maintain a clear, unobstructed view at all times, especially forward. Scan the water and avoid tunnel vision. Many boating collisions are caused by inattention.

Float Plan

A "float plan" is a written record indicating the planned destination and approximate length of time for the outing. Sample forms are available at the Coast Guard's website. One should be completed and left with a relative or friend prior to each trip. In case of an emergency or failure to return within a reasonable period of time, pertinent information will be available to assist local marine police or the Coast Guard in determining whether a search should be performed. Be sure to notify the float plan holder upon return.

Nautical Charts

Nautical charts are especially important to boaters planning trips, particularly on open waters. These charts show the nature and shape of the coast, depths of water, general configuration and character of the bottom. Other markings on the nautical charts include prominent landmarks, port facilities, aids to navigation, and marine hazards. Changes brought about by people and nature require that nautical charts be constantly maintained and updated to aid safe navigation.

National Ocean Service (NOS) charts may be purchased either directly by mail from the NOS Distribution Branch or through an authorized agent. There are more than 1,700 nautical chart agents who sell them.

FAA/National Aeronautical Charting Office
Distribution Division, AVN-530
6303 Ivy Lane, Suite 400
Greenbelt, MD 20770
Telephone: (301) 436-8301
Email: 9-AMC-chartsales@faa.gov
Website: http://naco.faa.gov/

Weather

Never leave the dock without first checking the local weather forecast. Weather information is available from television, radio, local newspaper, online or from a weather channel on a VHF radio.

At certain times of the year, weather can change rapidly and boaters should always keep an eye out for weather conditions. While boating, pay attention to the following:

- Weather changes generally come from the west.
- Watch for cloud build-up, especially rapid, vertically rising clouds.
- Sudden drop in temperature.
- Sudden change in wind direction and/or speed.
- On-board barometers should be checked every two-to-three hours. A rising barometer indicates fair weather and a rise in wind velocity; a falling barometer indicates stormy or rainy weather.

What to do in severe weather:

- Reduce speed, keeping enough power to maintain headway.
- Put on PFDs.
- Turn on running lights.
- Head for the nearest shore that is safe to approach, if possible.
- Head bow of boat into waves at about a 45-degree angle.
- Keep bilges free of water.
- Seat passengers on bottom of the boat, near the centerline.
- If the engine fails, tie a sea anchor on a line from the boat to keep the boat headed into the waves. A bucket will work as a sea anchor in an emergency.
- Anchor the boat, if necessary.

Staying Afloat

It is commonly believed that someone dressed in heavy clothing or waders will experience considerably more difficulty staying afloat if they fall overboard. This is not true. Air trapped in clothing provides flotation and bending the knees will trap air in waders. To stay afloat:

- Remain calm. Do not thrash about or try to remove clothing or footwear. This leads to exhaustion and increases the loss of air that may keep you afloat.
- Keep your PFD on.
- Keep your knees bent.
- Float on your back and paddle slowly to safety.

Cold Water Survival

Sudden immersion in cold water can induce rapid, uncontrolled breathing, cardiac arrest and other physical body conditions, which can lead to drowning. Always wearing a PFD will help survival in rapid immersion situations.

In other situations when entry into cold water is necessary:

- Wear a PFD.
- Button all clothing.
- Cover your head if possible and enter the water slowly.
- Keep your head out of the water if at all possible.
- Assume the Heat Escape Lessening Posture (HELP) position as taught within a Coast Guard-taught safety course.

Hypothermia

Immersion in water speeds the loss of body heat and can lead to hypothermia. This is the abnormal lowering of internal body temperature. If a boat capsizes it will likely float on or just below the surface.

To reduce the effects of hypothermia, get in or on the boat. Try to get as much of your body out of the water as possible. If you can't get in the boat, a PFD will enable you to keep your head out of the water. This is very important because about 50 percent of body heat loss is from the head.

It may be possible to revive a drowning victim who has been under water for some time and shows no sign of life. Cases document instances where victims have been resuscitated after extended periods. Start CPR immediately and get the victim to a hospital as quickly as possible.

Immersion Suits

Immersion suits will delay the effects of hypothermia in cold water and are available through many retailers who specialize in sales of marine products. The suits should be stored and maintained according to the manufacturer's instructions.

Inflatable Life Rafts

An inflatable life raft can provide a survival platform for an extended period of time. Be sure the life raft is large enough for everyone on board when the boat operates off-shore. It should have the appropriate emergency equipment pack and should be professionally serviced periodically, according to the manufacturer's instructions. Coast Guard-approved life rafts must meet a number of stringent material and performance standards.

Anchoring

Anchoring is done for two principal reasons: first, to stop for fishing, swimming, lunch or an overnight stay, and secondly, to keep a boat from running aground in bad weather or as a result of engine failure.

When preparing to anchor, bring the bow of the vessel into the wind or current. Place the engine in neutral. When the boat comes to a stop, slowly lower the anchor. Do not throw the anchor over as it will tend to foul the anchor or tangle line. When the anchor line has been let out, back down on the anchor with the engine in idle reverse to help set the anchor. After it is firmly set, use reference points (landmarks) in relation to the boat to be sure that the boat is not drifting. Check the points frequently.

Communications

The following applies to salt water boating:

When boating off-shore, carry communications gear such as a marine VHF-FM and/or HF transceiver(s), appropriate to the operating area. Cellular phone coverage is available in many coastal areas. However, cellular phones should NOT be considered a substitute for VHF-FM marine band radios for emergency purposes.

In distress situations, press the VHF transmit button and clearly say: MAYDAY, MAYDAY, MAYDAY. Follow this with the vessel name and/or description, the location, nature of emergency and number of people on-board. Then release the transmit button and wait for 10 seconds. If there is no response, repeat the MAYDAY call.

Satellite EPIRBs (406 MHz) are designed to quickly and reliably alert rescue forces, indicate an accurate distress position, and guide rescue units to the distress scene, even when all other communications fail.

When activated, the satellite EPIRB transmits a distress signal with a beacon-unique identifying code. The system detects the signal, calculates an accurate distress position, checks the unique identifying code against the EPIRB registration database (vessel and point of contact information supplied by the owner) and routes the distress alert with registration information to the responsible U.S. Coast Guard (or International) Rescue Coordination Center (RCC). 406MHz EPIRBs with GPS (internal or attached) also provide an immediate GPS position in the information passed to the RCC.

Geostationary satellites make detection almost immediate. If the EPIRB does not have the ability to provide a GPS position, the process to determine a position takes about an hour on average and almost always less than two hours. Satellite EPIRBs also include a homing beacon and strobe to help rescue forces quickly locate the distress scene.

Satellite beacons have significant coverage, alerting timeliness, position accuracy, and signaling advantages over other types of EPIRBs (121.5 MHz). Before purchasing or using something other than the 406 MHz EPIRB, be sure to understand the capabilities and limitations.

Further information and a complete listing of VHF channels and frequencies is available at: www.navcen.uscg.gov.

Law Enforcement

A vessel underway, when hailed by a Coast Guard vessel is required to heave to, or maneuver in such a manner that permits a boarding officer to come aboard.

Other federal, state and local law enforcement officials may board and examine a vessel. The Coast Guard may impose a civil penalty up to $1,000 for failure to comply with equipment requirements; report a boating accident; or comply with other federal regulations. Failure to comply with the Inland Navigation Rules Act of 1980 can result in a civil penalty up to $5,000. Details of the Act are available online or through the U.S. Coast Guard and the Coast Guard Auxiliary.

Improper use of a radio-telephone is a criminal offense. The use of obscene, indecent or profane language during radio communications is punishable by a $10,000 fine, imprisonment for two years or both. Other penalties exist for misuse of a radio, such as improper use of Channel 16 VHF-FM. Channel 16 is a calling and distress channel. It is not to be used for conversation or radio checks. Such communications should be conducted on an authorized channel.

Note that there are stringent requirements regarding, pollution, discharge of oil, discharge of garbage and the operation and discharge from sanitation devices. It is the boat owner's and operator's responsibility to determine what the laws and regulations are and to ensure that those laws and regulations are respected and enforced.

Details are available through the Coast Guard.

This Owner's Manual has been developed to help ensure an enjoyable experience as you boat, wakeboard and ski with a fabulous MasterCraft boat. As stated earlier, this information is not all-inclusive. There are many factors to consider and additional information that you need to research before undertaking any boating activity.

In addition to reading this Owner's Manual or other related material, and familiarizing yourself with the proper operation of the MasterCraft boat, you should also always use common sense when boating. For example, when anchoring the boat, you MUST turn OFF the engine. In most models, exhaust fumes containing carbon monoxide are emitted from the exhaust flap area of the transom immediately below the swim platform. No one should ever be on the swim platform or transom while the engine is operating. This includes while using the shower option in those models where the engine must run in order to create hot water. In those instances, showering must never be done on the swim platform or transom as the carbon monoxide fumes are toxic.

Common Sense Approach

DANGER

Carbon monoxide is a colorless, tasteless, odorless and poisonous gas that accumulates rapidly and can cause serious injury or death. Exposure to carbon monoxide can be fatal in a matter of minutes. Exposure to even low concentrations of carbon monoxide must not be ignored because the effects of exposure to carbon monoxide can build up and be just as lethal as high concentrations. Carbon monoxide from exhaust pipes of inboard or outboard engines may build up inside and outside the boat in areas near exhaust vents, particularly during slow-speed operations. STAY AWAY from these exhaust vent areas, which are located at the stern of the boat, and DO NOT swim or engage in any watersports or other activities in or near the stern area of the boat, including, without limitation, the swim platform and the rear sun deck, when the engine is in operation. Under no circumstances should the owner and/or operator allow persons to hold onto the swim platform while the engine is operating and the boat is in motion. These activities (sometimes known as "teak surfing" or "platform dragging," where the participant holds onto the swim platform and is pulled through the water, and/or "body surfs" immediately behind the boat) are extremely dangerous, highly likely to result in death or serious bodily injury, and are a misuse of this product.

WARNING

All boats have weight limits. Failure to adhere to the posted limits can cause operation instability and/or the boat to sink. This may result in serious injury or death, as well as significant damage to the boat, which will not be covered by warranty.

Overloading a boat may cause it to become unstable and may potentially result in the boat's flotation system becoming overwhelmed. Too much weight can sink any boat! Within this Manual and on a label mounted in each boat is the weight and maximum occupant limit for that specific model. Bear in mind that total weight limits include additional water ballast, gear brought onto the boat, additional options and all people. Equally critical is how weight is distributed throughout the boat. If too much weight is placed in one area it can have serious impact on maintaining control. Items and people can also shift positions during operation, potentially causing a dangerous situation.

Care should also be taken to avoid interfering with the boat operator's line of sight when the boat is underway. This applies particularly to individuals riding in the bow. It is possible to quite unintentionally obscure the driver's view. Even momentary interference can result in the driver's inability to respond to a situation that requires avoidance of another vessel or submerged or partially-submerged objects. Everyone on board should always pay attention to other vessels, people and objects located in close proximity to the boat, activities taking place in or near the water, and should always be supportive of the boat operator.

MasterCraft strongly encourages individuals to wear Personal Flotation Devices (PFDs). In many states, it is a legal requirement for children to wear them at all times while on board. Non-swimmers and swimmers of limited ability of any age should never be without a PFD while on a boat.

Avoid any activity that may result in damage to the boat, thereby voiding the warranty. Some things, such as avoiding stationary objects, are obvious. However, even less obvious activities can cause damage to a boat, no matter how well-built. For example, while a beach or shoreline may seem soft while walking on it, running a boat up onto shore may result in significant scratches in the fiberglass finish. The causes of many kinds of damage are usually quite obvious to trained service personnel.

MasterCraft cannot anticipate every type of activity or neglect that could result in damage to the boat or that may cause illness, injury or even death to boaters. The operator, owner and/or all persons on board are responsible for using common sense and a careful thought process to ensure that every measure has been taken to keep boating enjoyable for many years to come. A MasterCraft boat can be the source of countless hours of family fun, as well as building friendships. But the boating experience remains safe only if YOU use your head before, during and after your boating activity.

As you anticipate many good times ahead with the MasterCraft boat, be sure that, first and foremost, you are well-prepared to be responsible.

Rules of the Open Water

Just as there are rules that apply when driving a vehicle on the street, there are waterway rules that apply when you are driving a boat on the water. These rules are used internationally, and they are enforced by the United States Coast Guard and local agencies. You should be aware of these rules and follow them whenever you encounter another vessel on the water.

In various geographic locations, certain rules prevail that may be unique to the locale. Each state also has laws and boating limitations that may be applicable only within their boundaries. It is the operator's responsibility to seek out this information and become familiar with all safety-related information, laws and rules governing boating operation.

The rules presented in this Owner's Manual are condensed and have been provided for convenience only. Consult your local U.S. Coast Guard Auxiliary (USCGA), Department of Motor Vehicles (DMV) or Department of Natural Resources (DNR) for a complete set of rules governing the waters in which you will be using your boat. If you plan to travel—even for a short trip—you would be well-served to contact the regional USCGA, DMV or DNR in the area where you will be boating. Often, basic information is available through websites sponsored and prepared by these organizations and governing bodies.

Steering and Sailing Rules/Sound Signals

Any time two (2) vessels on the water meet one another, one vessel has the right-of-way. It is called the stand-on vessel. The vessel that does not have the right-of-way is called the give-way or burdened vessel.

These rules determine which vessel has the right of way, and accordingly, what each vessel should do.

The vessel with the right-of-way has the duty to continue its course and speed, except to avoid an immediate collision. When you maintain your direction and speed, the other vessel will be able to determine how best to avoid you.

The vessel that does not have the right of way has the duty to take positive and timely action to stay out of the way of the stand-on vessel. Normally, the give-way vessel should not cross in front of the stand-on vessel, but should slow down or change direction briefly and pass behind the other vessel. You should always move in such a way that the stand-on operator can see what you are doing if you are operating the give-way vessel.

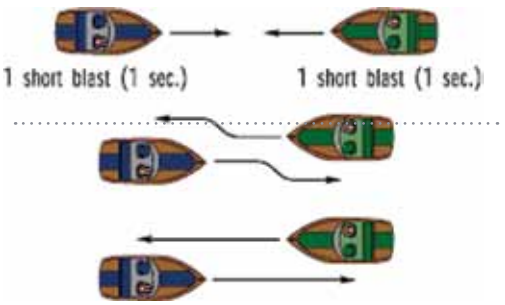
Rules When Encountering Vessels

There are three (3) main situations in which you may encounter other vessels, and you must avoid a collision. These are:

- Meeting (you are approaching another vessel head-on).
- Crossing (you are traveling across the other vessel's path).
- Overtaking (you are passing or being passed by another vessel).

Meeting

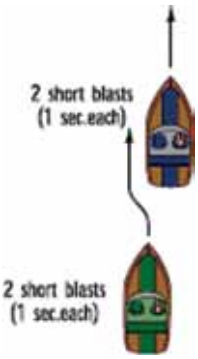
If you are meeting another vessel head-on, and you are close enough to run the risk of collision, neither of you has the right-of-way. Both of you should alter course to avoid an accident. You should keep the other vessel on your port (left) side. (This rule doesn't apply if both of you can clear each other by continuing your set course and speed.)



Crossing

When two (2) power-driven vessels are crossing each other's path close enough to run the risk of collision, the vessel that views the crossing vessel to the starboard (right) side must give way.

If the other vessel is to the port (left) side, you are the stand-on vessel, and provided the other vessel gives you the right-of-way, maintain your course and direction.



Overtaking

If you are passing another vessel, you are the give-way vessel. This means that the other vessel is expected to maintain its course and speed. You must stay out of its way as you clear it, altering course and speed as necessary.

Conversely, if you are being passed by another vessel, you are the stand-on vessel, and you should maintain your speed and direction so that the vessel can be steered around you.

Other Special Situations

There are additional rules to remember when operating your boat around other vessels, such as:

- When navigating in narrow channels, you should keep to the right when it is safe and practical to do so.
- When preparing to go around a bend that may obstruct your view of other water vessels, you should sound a prolonged blast on the horn or with a whistle for four (4) to six (6) seconds. Even if no reply is heard, you should still proceed around the bend with caution.

Sailing Vessel Right-of-Way

Sailing vessels should normally be given the right-of-way. The exceptions to this are:

- When the sailing vessel is overtaking the power-driven vessel, the power-driven vessel has the right-of-way.
- Sailing vessels should keep clear of any fishing vessel.
- In a narrow channel, a sailing vessel should not hamper the safe passage of a power-driven vessel that can navigate only in such a channel.

Fishing Vessel Right-of-Way

Under international rules, all vessels that are fishing with nets, lines or trawls are considered to be fishing vessels; however, boats with trolling lines are not considered fishing vessels.

Fishing vessels have the right of way, regardless of position, but these vessels cannot impede the passage of other vessels in narrow channels.

The General Prudential Rule

This rule is called Rule 2 in the International Rules and says, "In obeying and construing these rules due regard shall be had to all dangers of navigation and collision, and to any special circumstances, which may render a departure from the above rules necessary in order to avoid immediate danger."

Reading Buoys and Other Markings

The waters of the United States are marked for safe navigation by the lateral system of buoyage. The markers and buoys you encounter will have an arrangement of shapes, colors, numbers and lights to show which side of the buoy a boater should pass when navigating in a particular direction.

The markings on these buoys are oriented from the perspective of being entered from a seaward direction while the boater is going toward the port. Red buoys are passed on the starboard (right) side when proceeding from open water into port, and green buoys are passed on the port (left) side. When navigating out of port, your position to the buoys should be reversed: red buoys to port (left) and green buoys to starboard (right).

Many bodies of water are entirely within the boundaries of a single state. The Uniform State Waterway Marking Systems have been devised for these waters. This system uses buoys and signs with distinctive shapes and colors to show regulatory or advisory information. These markers are white with black letters and orange borders. The information signifies speed zones, restricted areas, danger areas and general information.

Remember: Markings may vary by geographic location. Always consult appropriate boating authorities before boating in unfamiliar waters.

Guide to Individual Models

MasterCraft BOATS

ProStar 190

Storage space is located:
Under observer's seat (including into bow)
Under aft seating
Under aft sun pad

Bow light

Bow cleat

Stereo CD Player
(inside glove box,
where equipped)
Sirius Satellite Radio
(where equipped)

Glove box

Battery
(located in void
beneath observer seat)

MTS Ballast System
(where equipped,
beneath observer seat)

Amp (where equipped,
beneath observer seat)

iPod interface
(where equipped)

Ski pylon

Center drain plug
(inside engine compartment)

Fire port

Fuel tank filler

Stern cleat
(where equipped)

Ballast vent

Swim platform

Engine exhaust
(two below swim platform)

Transom rail with tow eye
(where equipped)

Transom drain plug
(center beneath swim platform)

Built-in cooler

Bilge thru-hull outlet

Bow cleat
(where equipped)

Adjustable mirror

Circuit breaker panel
(on kick panel
beneath instrument panel)

Instrument panel
(details elsewhere in this section)

Subwoofer (where equipped)

Steering wheel

Shift-throttle control

Engine compartment

Rear Ballast System fill
(where equipped)

Stern light receptacle
(if equipped with tower,
the light will be in
center aft of tower)

Stern cleat

Ballast thru-hull vent

Shower wand & switch/
Slick Boot wand & switch
(where equipped, inside
storage compartment)

Underwater lights
(two where equipped
under swim platform)

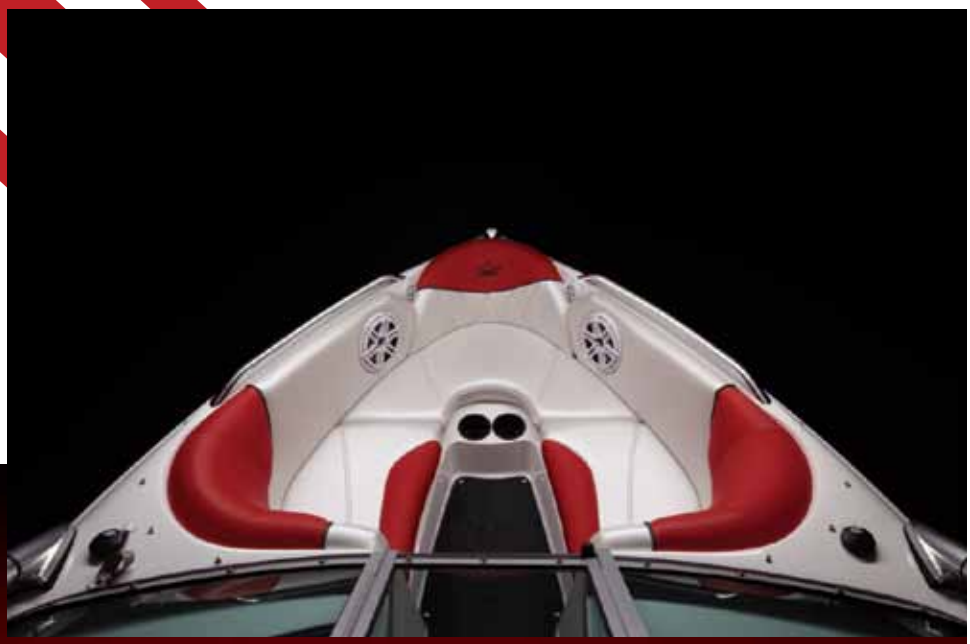
Transom stereo remote
(where equipped)

Under-platform ladder
(where equipped)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

ProStar 197

X-7



Storage space is located:
Under observer's seat
Under bow seating
Under aft seating
Under aft sun pad

Bow light

Bow cleat

Stereo CD Player
(inside glove box,
where equipped)
Sirius Satellite Radio
(where equipped)

Glove box

Battery
(located in void
beneath observer seat)

MTS Ballast System
(where equipped,
beneath observer seat)

Hand-held fire extinguishers
(beneath observer seat)

Amp (where equipped,
beneath observer seat)

iPod interface
(where equipped)

Ski pylon

Center drain plug
(inside engine compartment)

Fire port

Ballast vent

Fuel tank filler

Stern cleat
(where equipped)

Swim platform

Engine exhaust
(two below swim platform)

Transom rail with tow eye
(where equipped)

Transom drain plug
(center beneath swim platform)

Bow filler cushion
(where equipped)

Folding walk-thru seat

Built-in cooler

Bilge thru-hull outlet

Adjustable mirror

Bow cleat

Circuit breaker panel
(on kick panel
beneath instrument panel)

Instrument panel
(details elsewhere in this section)

Subwoofer (where equipped)

Steering wheel

Shift-throttle control

Engine compartment

Rear Ballast System fill
(where equipped)

Stern light receptacle
(if equipped with tower,
the light will be in
center aft of tower)

Stern cleat

Ballast thru-hull vent

Shower wand & switch/
Slick Boot wand & switch
(where equipped, inside
storage compartment)

Underwater lights
(two where equipped
under swim platform)

Transom stereo remote
(where equipped)

Under-platform ladder
(where equipped)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

ProStar 214

X-14

Storage space is located:
Under observer's seat
Under bow seating
Under aft seating
Under aft sun pad

Bow light

Bow filler cushion (where equipped)

Bow cleat

Stereo CD Player (inside glove box, where equipped)
Sirius Satellite Radio (where equipped)

Glove box

Battery (located in void beneath observer seat)

MTS Ballast System (where equipped, beneath observer seat)

Hand-held fire extinguishers (beneath observer seat)

Amp (where equipped, beneath observer seat)

iPod interface (where equipped)

Ski pylon

Center drain plug (inside engine compartment)

Fire port

Ballast thru-hull vent

Stern cleat

Fuel tank filler

Swim platform

Engine exhaust

Transom rail with tow eye

Transom drain plug (center beneath swim platform)

Bilge thru-hull outlet

Ballast thru-hull vent

Bow cleat

Adjustable mirror

Circuit breaker panel (on kick panel beneath instrument panel)

Instrument panel (details elsewhere in this section)

Steering wheel

Shift/throttle control

Subwoofer (where equipped)

Engine compartment

Ballast thru-hull vent

Stern cleat

Fuel tank filler

Stern light receptacle (if equipped with tower, the light will be in center aft of tower)

Underwater lights (two where equipped under swim platform)

Transom stereo remote (where equipped)

Shower wand & switch/ Slick Boot wand & switch (where equipped, inside storage compartment)

Under-platform ladder (where equipped)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

ProStar 214V

X-14V

Storage space is located:
Under observer's seat
Under bow seating
Under aft seating
Under port side seating
Bow light
Bow filler cushion (where equipped)
Bow cleat
Stereo CD Player (inside glove box, where equipped)
Sirius Satellite Radio (where equipped)
Glove box
Battery (located in void beneath observer seat)
MTS Ballast System (where equipped, beneath observer seat)
Hand-held fire extinguishers (beneath observer seat)
Amp (where equipped, beneath observer seat)
iPod interface (where equipped)
Convertible jump seat (where equipped) or walk-thru seat (where equipped)
Center drain plug (under inspection plate)
Ski pylon
Ballast thru-hull vent
Fuel tank filler
Stern cleat
Swim platform
Engine exhaust (under swim platform)
Transom rail with tow eye
Transom drain plug (center beneath swim platform)
Bilge thru-hull outlet
Ballast thru-hull vent
Bow cleat
Adjustable mirror
Circuit breaker panel (on kick panel beneath instrument panel)
Instrument panel (details elsewhere in this section)
Steering wheel
Shift/throttle control
Fire suppression unit manual override
Subwoofer (where equipped)
Cooler (located under seat)
Engine compartment
Ballast thru-hull pump-out
Fuel tank filler
Automatic fire extinguisher
Stern cleat
Shower wand & switch/ Slick Boot wand & switch (where equipped, inside storage compartment)
Stern light receptacle (if equipped with tower, the light will be in center aft of tower)
Blower exhaust (top of deck near transom)
Aft ski pylon
Underwater lights (two where equipped under swim platform)
Transom stereo remote (where equipped)
Under-platform ladder (where equipped)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

MasterCraft

X-1

Storage space is located:
Under observer's seat
Under bow seating
Under aft seating
Under aft sun pad

Bow light

Bow filler cushion
(where equipped)

Bow cleat

Ballast thru-hull
pump-out

Stereo CD Player
(inside glove box,
where equipped)
Sirius Satellite Radio
(where equipped)

Glove box

Battery
(located in void
beneath observer seat)

Ballast System tank
(where equipped,
beneath observer seat)

Hand-held fire extinguishers
(beneath observer seat)

Amp (where equipped,
beneath observer seat)

iPod interface
(where equipped)

Center drain plug
(under inspection plate)

Ballast thru-hull vent

Ballast system
(under sun pad)

Stern cleat

Swim platform

Transom rail with tow eye

Transom drain plug
(center beneath swim platform)

Bilge thru-hull outlet

Ballast thru-hull vent

Bow cleat

Adjustable mirror

Circuit breaker panel
(on kick panel
beneath instrument panel)

Instrument panel
(details elsewhere
in this section)

Subwoofer

Fire suppression unit
manual override

Steering wheel

Shift/throttle control

Ski pylon

Fuel tank filler

Automatic fire extinguisher

Engine compartment

Ballast system
(under sun pad)

Ballast thru-hull vent

Stern cleat

Shower wand & switch/
Slick Boot wand & switch
(where equipped,
inside storage compartment)

Stern light receptacle
(if equipped with tower,
the light will be in center
aft of tower)

Engine exhaust
(two beneath
swim platform)

Underwater lights
(two where equipped
under swim platform)

Transom stereo remote
(where equipped)

Under-platform ladder
(where equipped)

Boats are also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

200V

X-2

Storage space is located:
Under observer's seat
Under bow seating
Under aft and wrap-around seating
Under port and starboard sun pads

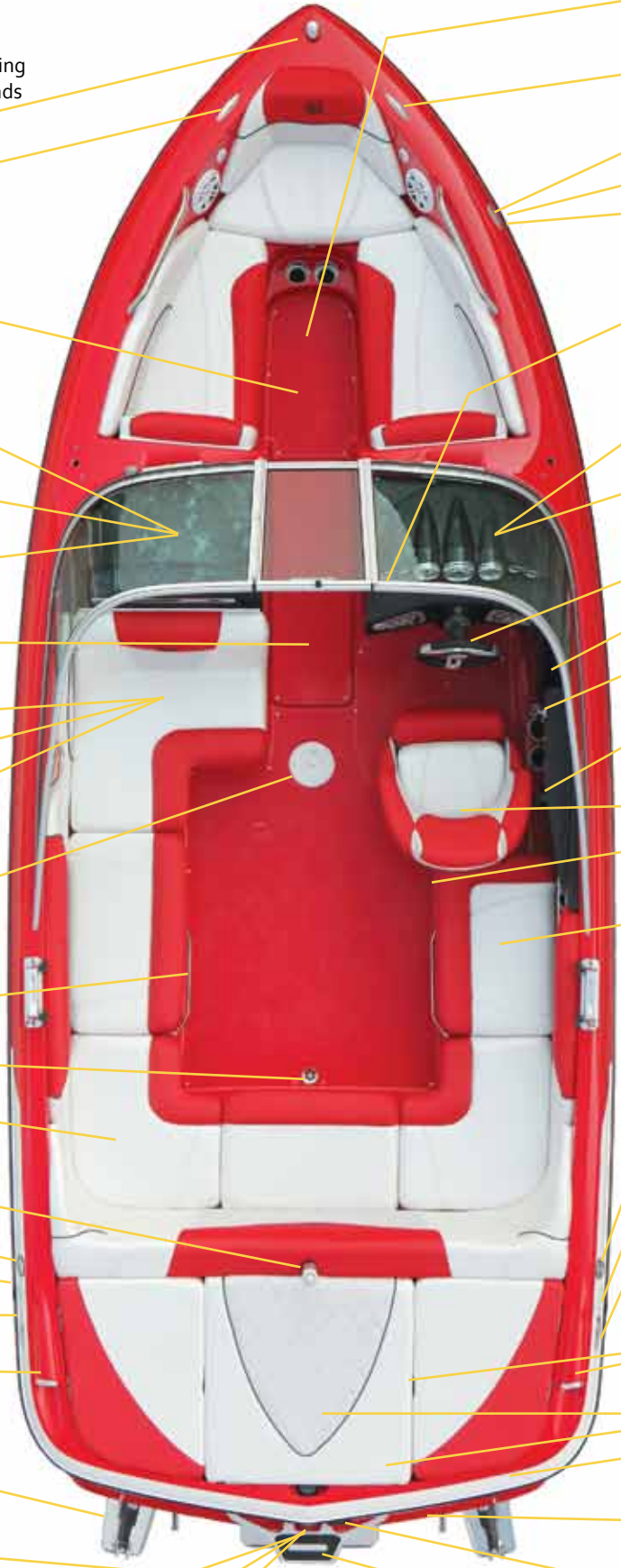
Bow cleat
Bow filler cushion (where equipped)
Stereo CD Player (inside glove box, where equipped) Sirius Satellite Radio (where equipped)
Glove box
Nav/anchor light
Walk-thru seat (where equipped)
Batteries (including ON-OFF switch)
Amp (where equipped)
Hand-held fire extinguisher (beneath observer seat)
Heated observer seat (where equipped)
Center drain plug (under inspection plate)
Cooler (under seat)
Cockpit table mount (where equipped)
Ski pylon
Fuel tank filler
Stern cleat
Ballast thru-hull vent
Surf tabs (on both sides, where equipped)
Engine exhaust
Transom rail with tow eye
Transom drain plug
Attitude adjustment plate

Bow cleat
Ballast tank (beneath floorboard)
Bilge thru-hull outlet
Ballast thru-hull vent
Adjustable mirror
Circuit breaker panel (on kick panel beneath instrument panel)
Instrument panel (details elsewhere in this section)
Nav/anchor light
Armrest stereo remote
Steering wheel
Shift/throttle control
Heated seat (where equipped)
Fire suppression unit manual override
Subwoofer
Automatic fire extinguisher
Engine compartment
Stern cleat
Bilge thru-hull vent
Shower wand & switch/ Slick Boot wand & switch (where equipped, inside compartment)
Nav/anchor light (if equipped with tower, the light will be in center aft of tower)
Underwater lights (two where equipped)
Transom stereo remote
Under-platform ladder (where equipped)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

215V

X-15



Storage space is located:
Under observer's seat
Under bow seating
Under aft and wrap-around seating
Under port and starboard sun pads

Bow light

Bow cleat

Bow filler cushion (where equipped)

iPod interface (where equipped)

Stereo CD Player (inside glove box where equipped)
Sirius Satellite Radio (where equipped)

Glove box

Walk-thru seat (where equipped)

Amp (where equipped)

Hand-held fire extinguisher (beneath observer seat)

Heated observer seat (where equipped)

Center drain plug (under inspection plate)

Cockpit table mount (where equipped)

Batteries (including ON-OFF switch)

Ski pylon

Fuel tank filler

Ballast thru-hull vent

Stern cleat

Engine compartment exhaust

Surf tabs (one on each side below transom)

Transom rail with tow eye

Transom drain plug

Under-platform ladder (where equipped)

Ballast tank below floor board

Bow cleat

Horn

Bilge thru-hull outlet

Ballast thru-hull vent

Adjustable mirror

Circuit breaker panel (on kick panel beneath instrument panel)

Instrument panel (details elsewhere in this section)

Steering wheel

Armrest stereo remote

Shift/throttle control

Fire suppression unit manual override

Heated seat (where equipped)

Subwoofer (where equipped)

Cooler (under seat)

Fuel tank filler

Bilge thru-hull vent

Stern cleat

Automatic fire extinguisher

Engine compartment exhaust

Engine compartment

Shower wand & switch (where equipped, inside compartment)

Stern light receptacle (if equipped with tower, the light will be in center aft of tower)

Underwater lights (two where equipped)

Transom stereo remote (where equipped)

Wake adjustment plate (where equipped)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

225V

X-25

Storage space is located:
Under observer's seat
Under bow seating
Under aft and wrap-around seating
Under port and starboard sun pads

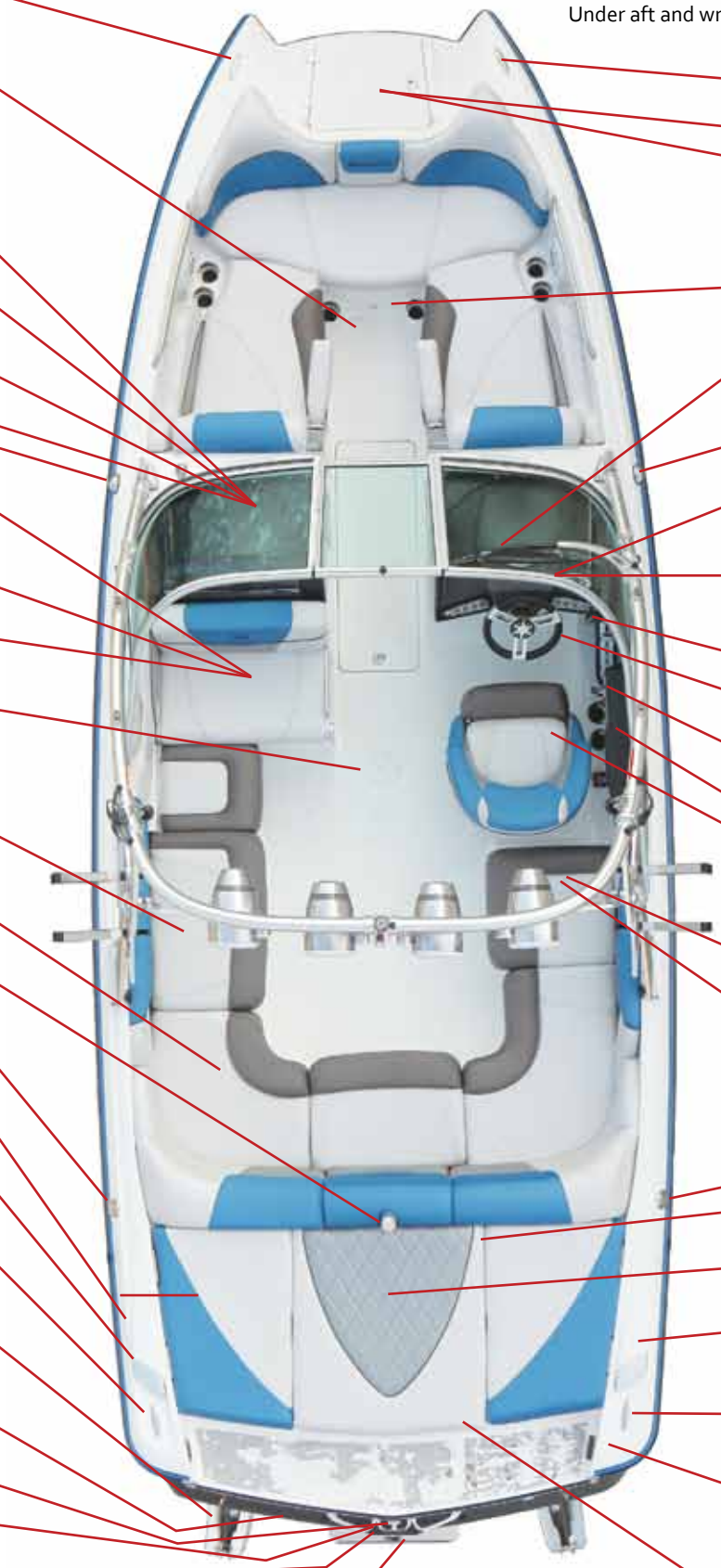
Bow cleat
Bow filler cushion (where equipped)
Glove box
Stereo CD Player (inside glove box, where equipped)
Sirius Satellite Radio (where equipped)
Navigation light
Walk-thru seat (where equipped)
Batteries (under observer seat)
Hand-held fire extinguisher (beneath observer seat)
Lifting observer seat
Heated observer seat (where equipped)
Anchor light
Ballast-thru-hull vent
Batteries ON-OFF switch (under aft rear port seat)
Fuel tank fill (standard dual filler)
Engine compartment
Walk-over engine hatch with removable cushion
Stern cleat
Shower wand/Slick Boot wand (where equipped, inside compartment)
Flip-up back rest for transom seats (for use while not underway)
Underwater lights (two, where equipped, under swim platform)
Engine exhaust
Nav/anchor light (if equipped with tower, the light will be center aft of tower)
Transom drain plug (center, beneath swim platform)
Under-platform ladder (where equipped)

Anchor locker
Ballast tank (located beneath floorboard)
Bow cleat
Horn
Bilge thru-hull outlet
Ballast thru-hull vent
Folding armrest in bow backs
Lifting bow backs
Adjustable mirror
Navigation light
Circuit breaker panel (on kick panel beneath instrument panel)
Instrument panel (details elsewhere in this section)
Steering wheel
Shift-throttle control
Heated seat (where equipped)
Center drain plug (under inspection plate)
Fire suppression unit manual override
Removable seat back for aft-facing seating (aft of helm)
Subwoofer (where equipped)
Cooler (under seat)
Stainless steel hatch stay-over cooler
Cockpit table mount (where equipped)
Ballast thru-hull air vent
Fuel tank filler
Bilge thru-hull
Flip-down cupholder for center aft seats
Ski pylon
Stern cleat
Wake adjustment plate (under swim platform, where equipped, two)
Engine exhaust
Swim platform
Transom stereo remote (where equipped)
Shower switch
Automatic fire extinguisher

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

235V

X-35



Storage space is located:
Under observer's seat
Under bow seating
Under aft and wrap-around seating

Bow cleat

Bow filler cushion
(where equipped)

Stereo CD Player
(inside glove box,
where equipped)
Sirius Satellite Radio
(where equipped)

Amp (where equipped)

iPod interface
(where equipped)

Glove box

Navigation/anchor light

Convertible observer's seat

Subwoofer
(where equipped)

Hand-held fire extinguisher
(beneath observer seat)

Center drain plug
(under inspection plate)

Cooler (under seat)

Batteries (including
ON-OFF switch)

Ski pylon

Fuel tank filler

Freshwater tank
(in locker, where equipped)

Engine compartment exhaust
(two, on top of port and
starboard deck near transom)

Stern cleat

Surf tabs
(located under swim platform,
where equipped)

Underwater lights
(four, where equipped,
under swim platform)

Transom rail with tow eye

Transom drain plug
(center beneath swim platform)

Under-platform ladder
(where equipped)

Wake adjustment plate
(where equipped)

Bow cleat

Anchor

Ladder
(where equipped)

Ballast tank
(beneath floorboard)

Adjustable mirror

Nav/anchor light

Circuit breaker panel
(on kick panel
beneath instrument panel)

Instrument panel
(details elsewhere
in this section)

Fire suppression unit
manual override

Steering wheel

Shift/throttle control

Armrest stereo remote

Heated seat
(where equipped)

Upright refrigerator
(under sink,
where equipped)

Sink and shower
(where equipped)

Fuel tank filler

Automatic fire extinguisher

Engine compartment

Engine compartment exhaust
(two, on top of port and
starboard near transom)

Stern cleat

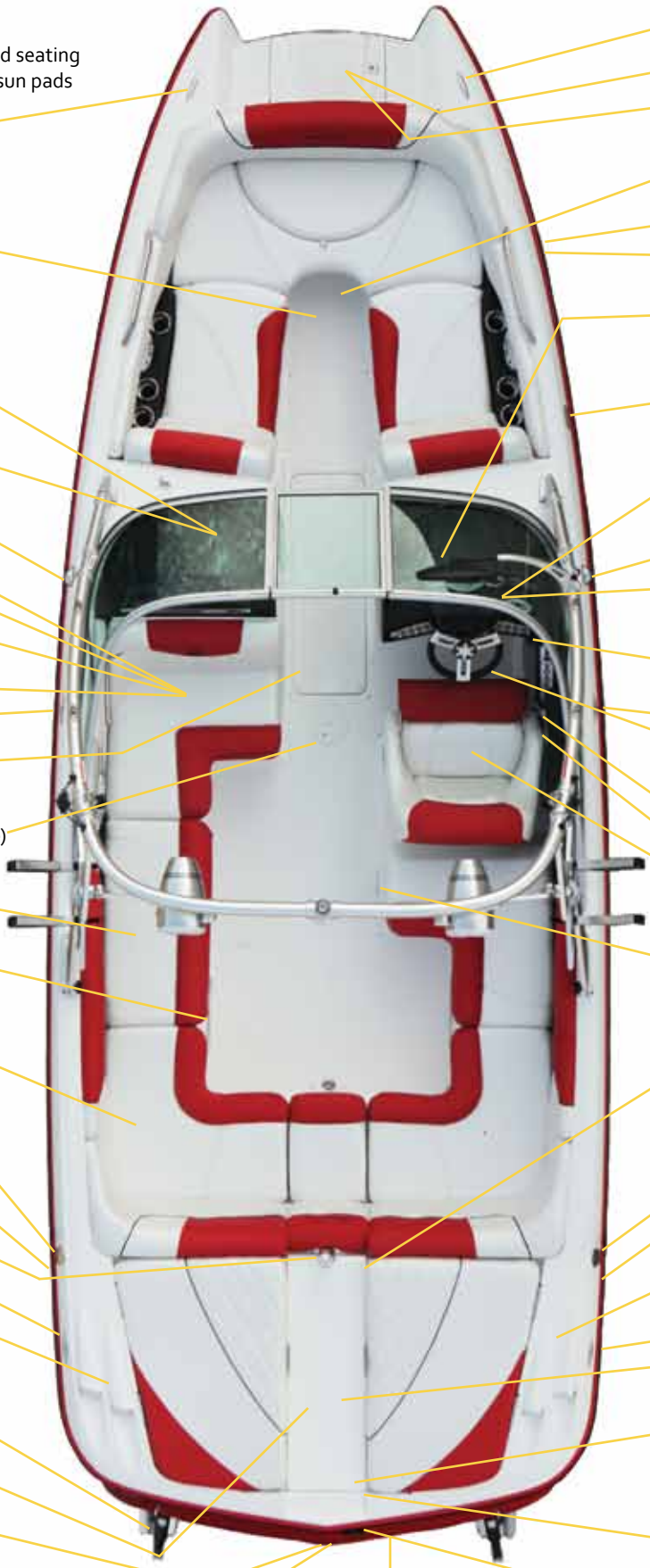
Stern light receptacle
(if equipped with tower,
the light will be in
center aft of tower)

Shower wand & switch/
Slick Boot wand & switch
(where equipped,
inside compartment)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

245V

X-45



Storage space is located:
Under observer's seat
Under bow seating
Under aft and wrap-around seating
Under port and starboard sun pads

Bow cleat
Bow filler cushion (where equipped)
Stereo CD Player (inside glove box, where equipped)
Sirius Satellite Radio (where equipped)
Glove box
Nav/anchor light
iPod interface (where equipped)
Amp (where equipped)
Hand-held fire extinguisher (beneath observer seat)
Heated observer seat (where equipped)
Midship cleat
Walk-thru seat (where equipped)
Center drain plug (under inspection plate)
Cooler (under seat)
Cockpit table mount (where equipped)
Batteries (including ON-OFF switch)
Fuel tank filler
Ballast thru-hull vent
Ski pylon
Stern cleat
Engine compartment exhaust (two, on top of port and starboard deck near transom)
Surf tabs (under swim platform, where equipped)
Sun deck filler cushion
Transom rail with tow eye
Transom drain plug (center beneath swim platform)
Under-platform ladder (where equipped)
Underwater lights (two where equipped)

Bow cleat
Anchor
Ladder (where equipped)
Ballast tank (beneath floorboard)
Bilge thru-hull outlet
Ballast thru-hull vent
Adjustable mirror
Horn
Circuit breaker panel (on kick panel beneath instrument panel)
Nav/anchor light
Instrument panel (details elsewhere in this section)
Fire suppression unit manual override
Midship cleat
Steering wheel
Shift/throttle control
Armrest stereo remote
Heated seat (where equipped)
Subwoofer
Automatic fire extinguisher
Fuel tank filler
Bilge thru-hull vent
Engine compartment exhaust (two, on top of port and starboard deck near transom)
Stern cleat
Engine compartment
Shower wand & switch/ Slick Boot wand & switch (where equipped, inside compartment)
Stern light receptacle (if equipped with tower, the light will be in center aft of tower)
Transom stereo remote (where equipped)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

255V

X-55

Storage space is located:
Under observer's seat
Under bow seating
Under aft and wrap-around seating
Under port and starboard sun pads

Bow cleat

Bow filler cushion (where equipped)

Amp (where equipped)

Head

Hand-held fire extinguisher (inside head)

iPod interface (inside head, where equipped)

Nav/anchor light

Stereo CD Player (where equipped)
Sirius Satellite Radio (where equipped)

Glove box

Midship cleat

Center drain plug (access plate under carpet mat)

Convertible observer seat

Subwoofer

Batteries (including ON-OFF switch)

Washdown connection

Cooler (under seat)

Fuel tank filler

Ski pylon

Blower exhaust (two, on top of port and starboard deck near transom)

Stern cleat

Freshwater tank fill

Wake adjustment plate (under swim platform, where equipped)

Swim platform

Transom rail with tow eye

Transom drain plug (center beneath swim platform)

Under-platform ladder (where equipped)

Anchor

Ladder (where equipped)

Bow cleat

Horn

Ballast tank (beneath floorboard)

Amp (standard equipment)

Holding tank pump-out

Adjustable mirror

Nav/anchor light

Circuit breaker panel (on kick panel beneath instrument panel)

Instrument panel (details elsewhere in this section)

Fire suppression unit manual override

Steering wheel

Midship cleat

Shift/throttle control

Armrest stereo remote

Heated seat (where equipped)

Sink and shower (where equipped)

Upright refrigerator (under sink, where equipped)

Fuel tank filler

Engine compartment

Stern cleat

Freshwater flush port (where equipped)

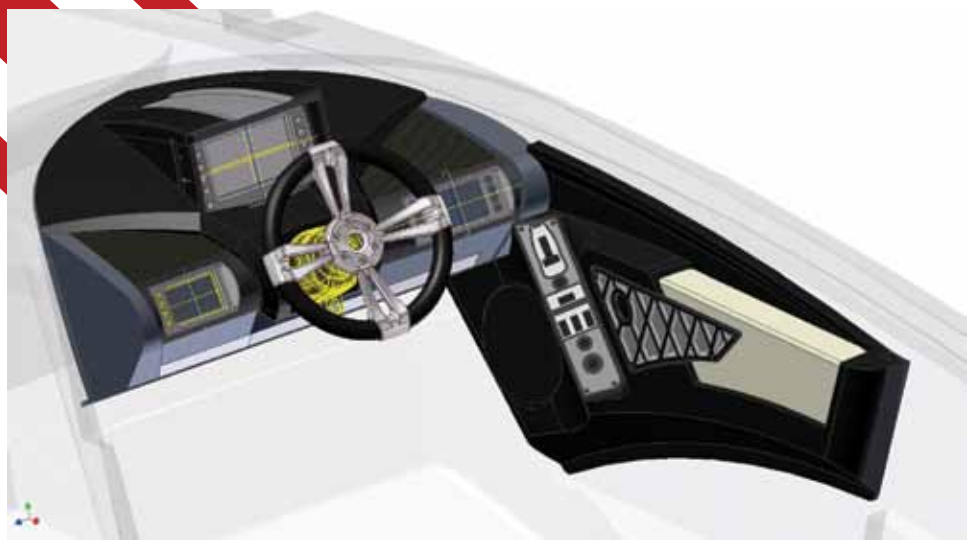
Automatic fire extinguisher

Stern light receptacle (if equipped with tower, light will be in center aft of tower)

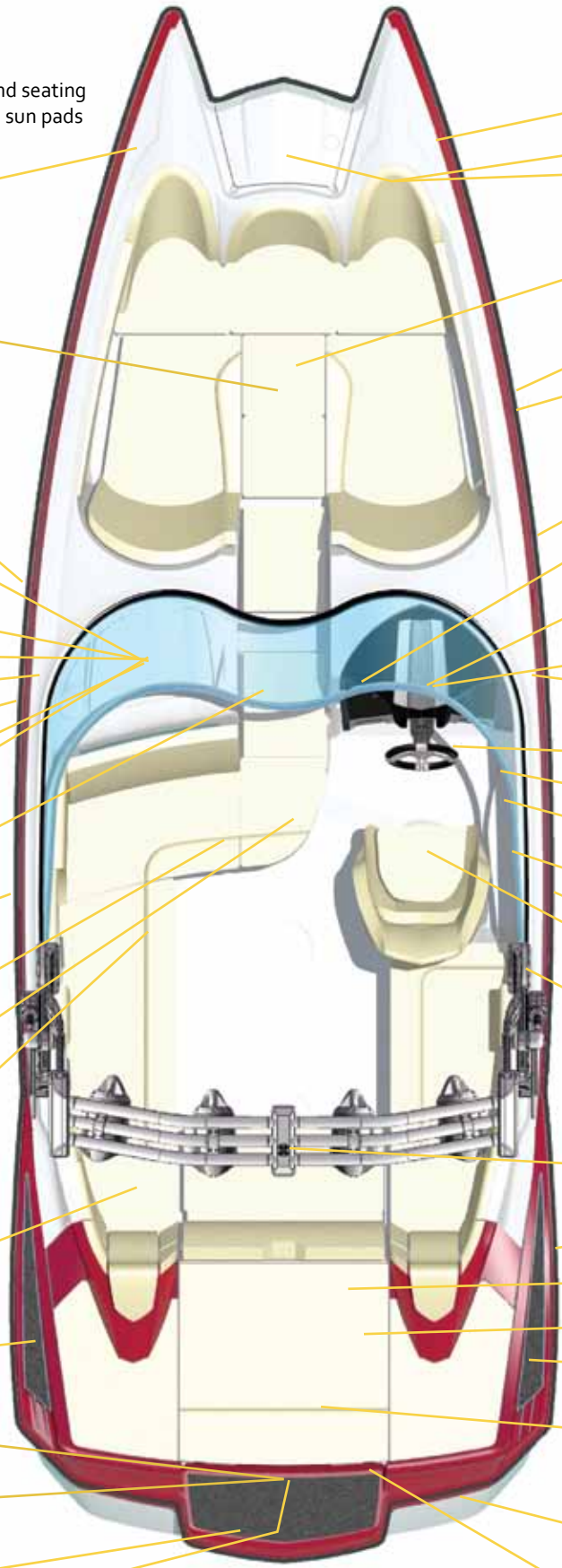
Underwater lights (two, where equipped, under swim platform)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

X-Star



Storage space is located:
Under observer's seat
Under bow seating
Under aft and wrap-around seating
Under port and starboard sun pads



Bow cleat
Bow filler cushion (where equipped)
Fuel tank filler
Stereo CD Player (inside glove box, where equipped)
Sirius Satellite Radio (where equipped)
iPod interface (where equipped)
Glove box
Nav/anchor light
Ballast thru-hull vent
Amp (where equipped)
iPod interface (where equipped)
Flip-up back rest
Midship cleat
Hand-held fire extinguisher (amp wall)
Center drain plug (Under seat, remove waste basket)
Cockpit table mount (where equipped)
Batteries (including ON-OFF switch)
Stern cleat
Transom rail with tow eye
Transom drain plug (center beneath swim platform)
Under-platform ladder (where equipped)
Engine exhaust

Bow cleat
Anchor
Ladder
Ballast tank (beneath floorboard)
Bilge thru-hull outlet
Ballast thru-hull vent
Fuel tank filler
Adjustable mirror
Circuit breaker panel (on kick panel behind access panel)
Instrument panel (details elsewhere in this section)
Nav/anchor light
Steering wheel
Armrest stereo remote
Shift/throttle control
Fire suppression unit manual override
Midship cleat
Heated seat (where equipped)
Subwoofer
Nav/anchor light
Bilge thru-hull pump-out
Engine compartment
Automatic fire extinguisher
Stern cleat
Shower wand & switch/ Slick Boot wand & switch (where equipped, inside compartment)
Underwater lights (two, where equipped under swim platform)
Transom stereo remote (where equipped)

Boats are also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

280

X-80

Bow cleat

Bow filler cushion (where equipped)

Amp (where equipped)

Stereo CD Player (where equipped)
Sirius Satellite Radio (where equipped)

iPod interface (inside head, where equipped)

Head

Hand-held fire extinguishers (inside head)

Nav/anchor light

Midship cleat

Center drain plug (access plate under carpet mat)

Fuel tank filler

Convertible observer seat

Subwoofer

Cockpit table mount (where equipped)

Batteries (including ON-OFF switch)

Thru-hull pump-out

Holding tank pump-out (where equipped)

Stern light receptacle

Stern cleat

Freshwater tank fill

Dual trim tabs (under swim platform)

Engine exhaust (two under swim platform)

Sun deck fill cushion

Engine compartment

Ski pylon

Swim platform

Transom drain plug (center beneath swim platform)

Under-platform ladder (where equipped)

Storage space is located:
Under observer's seat
Under bow seating
Under aft and wrap-around seating
Under port and starboard sun pads

Anchor

Ladder (where equipped)

Bow cleat

Ballast tank (beneath floorboard)

Adjustable mirror

Circuit break panel (on kick panel beneath instrument panel)

Nav/anchor light

Instrument panel (details elsewhere in this section)

Fire suppression unit manual override

Midship cleat

Steering wheel

Fuel tank filler

Armrest stereo remote

Shift/throttle control

Thru-hull pump-out

Heated seat (where equipped)

Freshwater tank, sink and shower (where equipped)

Entertainment unit (under sink, where equipped)

Refrigerator drawer (under seating, where equipped)

Bilge thru-hull outlet

Stern cleat

Automatic fire extinguisher

Shower wand & switch(where equipped)

Underwater lights (two, where equipped under swim platform)

Boats may also be equipped with towers, which may include stereo speakers, lights and/or tower-mounted mirror.

Measurements

Overloading a boat may cause it to become unstable and may potentially result in the boat's flotation system becoming overwhelmed. Too much weight can sink any boat! Within this Manual and on a label mounted in each boat, except in the 280 and X-80 models, is the weight and maximum occupant limit for that specific model. Bear in mind that total weight limits include additional water ballast, gear brought onto the boat, additional options and all people. Equally critical is how weight is distributed throughout the boat. If too much weight is placed in one area it can have serious impact on maintaining control. Items and people can also shift positions during operation, potentially causing a dangerous situation.

ProStar 190
Length of Boat ..... 19'8"
Width Amidship ..... 91"
Boat Weight ..... 2,620 lbs.
Length of Boat w/Platform ..... 21'6"
Towing Length ..... 22"
Towing Width ..... 100"
Fuel Capacity ..... 28 gallons
Total Weight Capacity 7 people or 1,087 lbs.

ProStar 197, X-7
Length of Boat ..... 19'8"
Width Amidship ..... 91"
Boat Weight ..... 2,800-3,070 lbs.
Length of Boat w/Platform ..... 21'6"
Towing Length ..... 22'
Towing Width ..... 100"
Fuel Capacity ..... 28 gallons
Total Weight Capacity 7 people or 1,087 lbs.

ProStar 214, X-14
Length of Boat ..... 21'4"
Width Amidship ..... 96"
Boat Weight ..... 3,100-3,300 lbs.
Length of Boat w/Platform ..... 23'8"
Towing Length ..... 24'4"
Towing Width ..... 100"
Fuel Capacity ..... 40 gallons
Total Weight Capacity 11 people or 1,525 lbs.

ProStar 214V, X-14V
Length of Boat ..... 21'4"
Width Amidship ..... 96"
Boat Weight ..... 3,400 lbs. est.
Length of Boat w/Platform ..... 23'8"
Towing Length ..... 24'4"
Towing Width ..... 100"
Fuel Capacity ..... 34 gallons
Total Weight Capacity 11 people or 1,450 lbs.

X-1
Length of Boat ..... 20'7"
Width Amidship ..... 90"
Boat Weight ..... 3,200 lbs.
Length of Boat w/Platform ..... 22'6"
Towing Length ..... 22'3"
Towing Width ..... 96"
Fuel Capacity ..... 33 gallons
Total Weight Capacity 11 people or 1,615 lbs.

200V, X-2
Length of Boat ..... 20'
Width Amidship ..... 96"
Boat Weight ..... 3,350-3,500 lbs.
Length of Boat w/Platform ..... 22'1"
Towing Length ..... 22'9"
Towing Width ..... 100"
Fuel Capacity ..... 45 gallons
Total Weight Capacity 11 people or 1,609 lbs.

215V, X-15
Length of Boat ..... 21'8"
Width Amidship ..... 100"
Boat Weight ..... 3,425-3,575 lbs.
Length of Boat w/Platform ..... 23'9"
Towing Length ..... 24'1"
Fuel Capacity ..... 45 gallons
Total Weight Capacity 14 people or 2,325 lbs.

225V, X-25
Length of Boat ..... 21'6"
Width Amidship ..... 102"
Boat Weight ..... 4,150-4,370 lbs.
Length of Boat w/Platform ..... 23'7-1/2"
Towing Length ..... 26'10-1/2"
Towing Width .. 102" (without guide poles)
Fuel Capacity ..... 53 gallons
Total Weight Capacity 16 people or 2,440 lbs.

235V, X-25
Length of Boat ..... 23'5"
Width Amidship ..... 102"
Boat Weight ..... 4,650-4,900 lbs.
Length of Boat w/Platform ..... 25'3"
Towing Length ..... 25'8"
Fuel Capacity ..... 60 gallons
Total Weight Capacity 16 people or 2,400 lbs.

245V, X-45
Length of Boat ..... 24'2"
Width Amidship ..... 102"
Boat Weight ..... 4,730-4,950 lbs.
Length of Boat w/Platform ..... 26'4"
Towing Length ..... 26'1"
Towing Width ..... 100"
Fuel Capacity ..... 85 gallons
Total Weight Capacity 18 people or 2,928 lbs.

255V, X-55
Length of Boat ..... 25'5"
Width Amidship ..... 102"
Boat Weight ..... 4,850-5,000 lbs.
Length of Boat w/Platform ..... 27'8"
Towing Length ..... 31'2"
Fuel Capacity ..... 90 gallons
Total Weight Capacity 18 people or 3,000 lbs.

X-Star
Length of Boat ..... 24'0"
Width Amidship ..... 101"
Boat Weight ..... 4,900 lbs.
Length of Boat w/Platform ..... 26'
Towing Length ..... 29'
Towing Width ..... 101"
Fuel Capacity ..... 74 gallons
Total Weight Capacity 14 people or 1,970 lbs.

280, X-80
Length of Boat ..... 28'3"
Width Amidship ..... 114"
Boat Weight ..... 6,200 lbs./6,420 lbs.
Length of Boat w/Platform ..... 28'3"
Towing Width ..... 114"
Fuel Capacity ..... 100 gallons
Total Weight Capacity .....
..... Yacht certified; no capacity rating

Electronic Instrumentation

MasterCraft BOATS

Introduction

Proper control of MasterCraft boats extends beyond the steering wheel. Each boat is equipped with multiple gauges that provide information to guide the operator in maintaining control. There are also a variety of switches and buttons within the boat that control various functions from comfort to watersports enhancement to safety-related features. It is important for the boat owner and/or operator to become familiar with all gauges and switches in the boat, the functionality of each, and how to respond to alarms and warnings that the instrument panel may provide.

In the *Guide to Individual Models* section of this Owner's Manual is a listing of the locations of gauges and switches for the various model instrument panels. Operators should match up these listings with the actual panel. However, MasterCraft was undertaking a significant re-design of the instrument panels and some gauges and switches may be located in positions other than those identified in the listing. Prior to boating, owners and operators should also review and understand the following section regarding the boat's electrical components and operations through the battery or batteries, as well as the circuit breaker system. A thorough understanding of these systems is critical to avoiding potential issues that may arise during an outing. **MasterCraft strongly recommends reviewing all instrumentation with your authorized MasterCraft dealer prior to operating the boat for the first time, and consulting with the dealer at any time an operator is uncertain about instrumentation locations or operations!**

The following is an explanation of the functionality of the gauges and switches that are listed for the various models.

Variations in Gauges and Switches

Please note that not every gauge or switch explained in this Owner's Manual is found on every model. Some equipment is optional and not every option is available on all models of MasterCraft boats.

Also, MasterCraft utilizes a variety of gauge and switch styles from the gauges or switches pictured in this Owners Manual. These differences between the various styles of gauges and switches are not in functionality. If a boat is equipped with a gauge or switch that is labeled as described above, it will operate in the same fashion as the description even if its appearance is different, as the appearance changes periodically.

If the owner and/or operators are uncertain about a gauge's or switch's purpose, do not operate the boat until consulting with an authorized MasterCraft dealer. Some gauges monitor information that is critical to safe and long-term use of the boat. Some switches can affect maneuverability, as well as operations that impact long-term use of the boat.

Controls Common to Most Models

Manual and Automatic Bilge Pump Switch

(All Models)

The bilge pumps on all V-drive models will be in the automatic mode when the ignition key is turned ON. Some models may have two (2) switches, one for the forward bilge and one for the aft. In these instances, the switches will be marked. The manual and automatic bilge discharge system is never completely off. When in the automatic (default) position, a sensor alerts the system to discharge water from the bilge area. Boat operators are advised to leave the switch in the automatic position, unless there appears to be excess water in the bilge. In that event, the bilge pump can be manually activated by turning the bilge pump switch to the manual ON position. Return the switch to the automatic position when finished emptying the bilge. Leaving the switch in manual mode can result in damage to the pump and may not be covered by warranty!

Blower Switch

(All Models)

A two-position switch activates the engine box ventilation blower. Push the top half of the switch to turn the blower ON.

Note: The blower must operate for a minimum of four (4) minutes before starting the engine at any time. The blower must also be operated during idle and slow-speed running, but is not necessary during cruising speed.

To prevent a possible explosion, operate the blower for at least four (4) minutes before starting the engine and always when at idle or slow-running speed. Explosive gasoline and/or battery fumes may be present in the engine compartment. Failure to operate the blower as instructed may cause improper ventilation of the boat engine and bilge areas, and fuel vapors can accumulate in this area, causing a fire or explosion which may result in serious injury or death!

Circuit Breakers

(All Models)

All major boat circuits are protected from shorting and overload by re-settable circuit breakers. If a problem develops with one of the following circuits, switch OFF the circuit and wait for approximately one (1) minute. Then fully push the appropriate breaker button and switch ON the circuit. If the circuit continues to trip, there is a problem somewhere that must be attended to immediately. See your authorized MasterCraft service department to resolve this matter.

The location of the main circuit breaker board is under the dash panel. In some models, there is an additional breaker panel to assist with the accessory load, and where equipped is located near the battery box. There may also be a waterproof fuse for the stereo amplifier, where equipped. If the boat's accessories are malfunctioning, check and then re-set breakers as necessary.

The engines are also equipped with breaker systems. The main 35A circuit breaker protects the engine electrical system and components from overload. If the engine will not turn over with the battery switch in the ON position, locate the red breaker re-set button (labeled "35") in the engine. There will be an audible click. Try again to start the engine. If the breaker trips again, the engine requires attention. Immediately take your boat to your authorized MasterCraft service department.

In addition to the 35A circuit breaker, the engines are equipped with additional component overload protection, including a 15A ATO fuse for the fuel pump, a 15A ATO fuse for the injectors and a 15A ATO fuse for the ECM unit.

If you suspect that any of these fuses may not be operating as designed, you should take your boat to your authorized MasterCraft service department for inspection and repair.

If during maintenance or inspection it becomes necessary to remove or re-position any of the engine's wiring or wire harness(es) verify that the wiring has been returned to its original position and that all harnesses are routed correctly before attempting to use the boat again. If a wiring clip or retainer breaks, replace it immediately. Wiring is specifically routed to eliminate problems related to engine heat and spray or immersion in liquids. Electrical problems may result if wiring is moved from its original position!

Dual Battery Operation Switch

(All V Models and Similar X Series, X-Star)

All equipped models except 280 and X-80: For normal operation the battery switch should be placed in the ON position. This allows the engine and all accessories to receive power. The engine will recharge both batteries with the switch ON. For transportation and storage, the battery switch should be placed in the OFF position to allow both batteries to be isolated from all circuits.

Note: The switch knob may be removed when it is in the OFF position. This is a security feature.

If the engine will not start because the battery is discharged, the engine may be started from the house battery by placing the switch in the COMBINE BATTERIES position. After the engine is started, the switch should be returned to the ON position and NOT allowed to remain in the COMBINE Batteries mode.

MariStar 280 and X-80: For normal operation the port and starboard battery switches should be placed in the ON position. The COMBINE BATTERIES switch should remain OFF. The engine and all accessories will receive power.

Note: The port battery is a dedicated start battery for the port engine and the starboard battery provides starting current of the starboard engine while also providing power for accessory circuits. For transportation and storage, all battery switches should be placed in the OFF position to isolate both batteries from all circuits.

NOTE: The switch knob may be removed when it is in the OFF position. This is a security feature.

If either battery becomes discharged, start the engine with the remaining charged battery and THEN set the COMBINE BATTERIES switch to ON. The remaining engine may then be started. Return the COMBINE BATTERIES switch to OFF. The COMBINE BATTERIES switch should NOT be left ON.

Engine Emergency Safety Stop Switch

(All Models)

The engine emergency safety stop switch, which is attached to the lanyard, is an ignition cut-off switch designed to stop the engine in the event the operator is thrown or moves too far away from the helm.

The lanyard is equipped with a hook on one end that should be attached to your clothing or PFD, and the opposite end has a slide that fits over the ignition switch. Be sure that the slide is firmly attached to the ignition switch before starting.

The ignition switch is located near the throttle control box, the armrest or on the instrument panel. If the slide is left off or is loose, the engine will crank but will not start. **Operators should NEVER attempt to override this safety system!**

DANGER

The safety switch lanyard must be attached to the operator whenever the engine is running. Failure to do so may result in death or serious injury!

Horn

(All Models)

The horn is sounded by means of a button on the instrument panel. Pressing the button emits a loud and recognizable noise.

Ignition Key Slot

(ProStar 190, ProStar 197, X-7, X-1)

MasterCraft boats come equipped with an ignition key, which must be inserted in the ignition key slot and used to activate the boat's electrical system. This, in turn, will allow the boat to be started and operated.

The key will be in one of four (4) positions:

- OFF
- Accessory (including running the stereo without the engine running)
- ON (engine is running)
- Start (turn the key to engage the engine starter, then release to allow the key to automatically return to the ON position)

Never start the engine without having first run the blower for at least four (4) minutes.

Never leave the ignition switch in the ON position without the engine running, as this will cause the battery to discharge.

Ignition START-STOP

(All Models except Prostars 190, 197, X-7 and X-1)

All models so equipped will have a removable ignition key. Its purpose is for safety and security. The key should be inserted prior to starting an outing, and removed at the conclusion. This is intended to prevent theft or unapproved use of the boat.

The process for starting the boat is:

- Insert the key and turn. This turns ON the electrical system and prompts the battery(ies) to provide power.
- Turn the blower ON and allow it to run for at least four (4) minutes before starting the engine.
- Momentarily press the ENGINE START-STOP button immediately above the key.
- Momentarily press the ENGINE START-STOP button to turn OFF the engine. *NOTE:* This button only affects the engine. The electrical system will continue to operate as long as the key is turned. If the key is left turned on after the outing, it will eventually run down the battery(ies) and the engine and all systems will not start as a result.
- At the conclusion of the outing, turn the key off and remove from the key slot. Doing so will ensure that you have turned OFF the electrical system, and prevent others from starting or running the boat.

GPS and Chartplotter

All GPS and chartplotter systems come with extensive instruction manuals. Please refer to these manuals or the manufacturer's website for details and guidance.

Navigation/Anchor Lights Switch

(All Models)

A three-position switch serves to activate exterior lighting. Turning the switch in the up position will activate bow and stern lights, the middle position is OFF, and the down position is for stern-only lighting.

Performance Controls

This section discusses the performance controls. On some models, information is provided via traditional gauges and switches. On many models, however, this information (as well as some convenience and support data described elsewhere in this owner's manual) is given through a video display gauge. Several different video display gauges are mounted in the boats, depending on the model. Descriptions of the functionality of those gauges follows in the next section. Please note that some refinement of these gauges was in progress at press time. Therefore, the gauge in your boat may have some minor variances to what is described in this manual. MasterCraft strongly encourages you to review ALL instrumentation with your authorized MasterCraft dealer prior to operating the boat for the first time, and at any time during ownership of the boat if you are uncertain as to proper and applicable functionality.

Battery Charger

(Where Equipped)

As a convenience, a battery charger is offered as an option. The charger is designed to recharge the batteries and also to extend the battery's life in applications where it is stored for long periods of time. These are three-stage electronic chargers, completely automatic, lightweight, and silent. Unlike most automotive chargers, this charger will not boil off the electrolytes in properly installed and maintained batteries. The red and green LED lights, which are mounted on the charger face, indicate when the unit is recharging and maintaining the batteries.

Before charging a battery, do not operate the charger if the cables or an LED is damaged. Be sure that all accessories are OFF. If the battery or batteries must be removed from the product, always remove the grounded terminal from the battery first. Be sure that the area around the battery is well ventilated while the battery is being charged. Also ensure that the battery terminals are free of corrosion. (See the *Scheduled Maintenance* section of this Owner's Manual for additional battery information.)

If the battery charger ever appears to be malfunctioning, see your authorized MasterCraft dealer for assistance.

WARNING

When charging, batteries generate small amounts of dangerous hydrogen gas. This gas is highly explosive. Keep all sparks, flames and smoking well away from the area. Failure to follow instructions when charging a battery may cause an electrical charge or even an explosion of the battery, which could result in death or serious injury.

Cruise Control Gauge

(Where Equipped)

Boats equipped with cruise control systems come with short manuals that describe how to operate and maintain the cruise control system. Refer to the appropriate manual prior to operation of the system. Boats featuring the "simple" cruise system function the same as an automobile with an ON/OFF switch and +/- to increase or decrease speed. For boats equipped with dual engines, see also the *Engine Synchronizing Switch* instructions of this section. The engine synchronizing switch must be ON for the cruise to work on dual-engine boats. Also review the operating instructions from the cruise control provider.

Engine Oil Pressure Gauge

(All Models)

The engine oil pressure gauge indicates the pressure of the lubricating oil inside the engine. The average pressure ranges are between six (6) pounds per square inch (PSI) at 1000 RPM to 40 PSI or more at cruise-range speeds. A reading of pressure below 5 PSI at 1000 RPM may be caused by a low oil level or other potentially serious problems that result in low oil pressure. ***If you experience low oil pressure, stop your engine immediately and check your oil level before operating again.***

CAUTION

Do not continue to run the engine if the oil pressure is low. If you do, the engine may become so hot that it, or surrounding components, could catch fire. You or others could be burned and the boat seriously damaged. Check your oil level and add an appropriate amount of approved motor oil before operating again or have your boat serviced by your local authorized dealer's service department. Note that damage to your engine from inappropriate oil levels can be costly to repair. Such damage is not covered by your warranty.

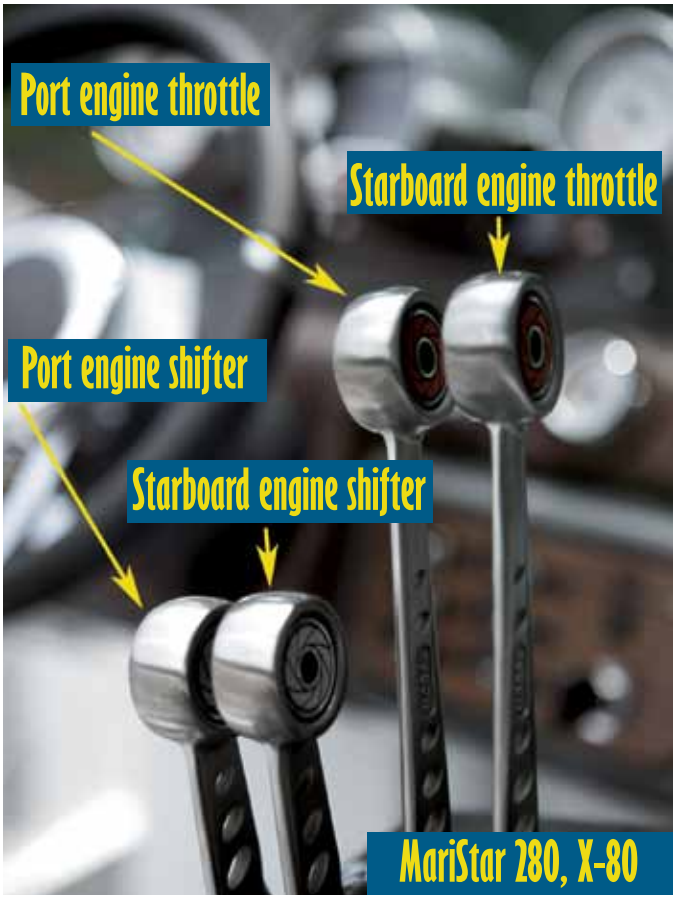
Engine Synchronizing Switch

(MariStar 280 and X-80)

This two-position switch allows the engines to operate in synchronization. ***Do not engage the switch unless the engines are running (for safety's sake)! Prior to engaging the synchronizing switch, ensure that you are in a large body of water. Avoid a tight cove or narrow river, and docks, dams or other objects that may protrude into the body of water. Be certain that there is a minimum of other vessels or traffic as you will need room to perform this procedure.***

WARNING

Engaging the engine synchronization functionality requires practice to master. Because the boat will be in gear and will move during the process, even after mastering the maneuver boat operators should synchronize engines only on bodies of water of sufficient size to accomplish the maneuver without making contact with other vessels or with inanimate objects, which could cause serious bodily injury or significant damage to the boat.



The port engine will have an RPM blip after the Sync switch is activated and the throttle is moved to wide-open throttle on the MariStar 280 or X-80. If the engine actually accelerates to wide-open throttle, then the Sync function did not take control of the port engine. In this instance, reduce the speed and return to Step 1.

The engines can be run at different levels of throttle BUT NOT WHEN UTILIZING THE Sync FUNCTION!

NOTE: DO NOT engage the Engine Synchronizing Switch when loading or unloading the boat from a trailer OR when docking. These maneuvers require a sensitive touch.

The MariStar 280 is equipped with a four-lever control. (See image.)

Step 1: Start both engines. While at idle and in neutral (shifter not moved), press up on the Sync switch to turn the synchronization function ON.

Step 2: Push the **port throttle** to wide-open throttle. There will be a slight rise in RPMs to the engine (but the boat should not move forward as the shifting and throttle response are controlled with separate levers). With the Sync switch ON, however, the engine will very quickly return to idle.

Step 3: Using the **starboard throttle**, run the boat up to the desired speed. At this point, the system will begin functioning with both engines in sync. The starboard throttle will control the speed for both engines as long as the sync switch is ON.

Note: Before disengaging the sync functionality, move ALL levers back to idle, beginning with the starboard throttle and shifter, and then the port throttle and shifter. When the boat returns to idle, the engine synchronizing switch can be turned off. Failure to follow this procedure may result in erratic handling of the boat, which may be beyond the boat operator's ability to handle.

Fuel Gauge

(All Models)

Fuel gauge readings are only approximate. This gauge is activated with the ignition switch. The rocking motion of the boat during normal operation will cause the fuel gauge to fluctuate. For a more accurate reading, make sure that the boat is level and there is little or no motion present.

MasterCraft recommends that operators do not run the boat below a quarter of a tank, except as necessary to return to shore, and not until the boat has been operated enough times to develop an understanding of how the fuel gauge readings relate to the visual inspection of fuel left in the tank. Extending fuel usage beyond the known capability of the boat may cause the boat to run out of fuel and may leave you stranded off-shore.

Although it may be possible to see fuel in the bottom of the fuel tank, you still may not be able to operate the boat. The fuel pick-up system was designed to avoid introducing the small amount of water and debris that unavoidably accumulate in the bottom of the tank. Rather than relying on visual inspection, you should pay attention to the fuel gauge.

Further, it is not recommended to allow the fuel to fall below one-quarter of a tank full at any time as it may result in damage to the fueling system. (See the *Fueling* section of this Owner's Manual.)

CAUTION

Allowing the fuel level in the fuel tank to fall below one-quarter of a tank full may affect the reliability of the fuel pump or result in damage to the fuel pump, which is not covered under warranty.

Low Voltage Battery Alarm

(All Models)

In the event that the stereo has been functioning when the boat is not ON and running, the voltage drain on the battery (or batteries) may result in difficulties with re-starting the boat. It may also cause intermittent erroneous or fluctuating gauge readings. When the voltage level reaches 10.5 volts or below, the system will shut off the stereo and sound the alarm. Generally, the appropriate action is to leave the stereo OFF, as well as disengaging any other peripheral electrical components, and keying ON the engine. Running the engine at a moderate rate for several minutes without the additional drain of stereo and unnecessary electrical equipment will allow the alternator to recharge the battery or batteries, unless the battery(ies) have been used to the extent of their life span.

DANGER

Carbon monoxide is emitted from the engine's exhaust system. Never run the engine without proper ventilation. Do not run the engine in a confined space or where fumes may be trapped. Do not run the engine when the boat is stationary in calm wind conditions.

Other Alarms

(All Models)

Sensors check the oil pressure, engine and transmission temperatures. If the system detects readings outside the acceptable range, the system shuts off the stereo and sounds the alarm for a period of one (1) minute. This signals the need to return to shore as soon as possible and seek assistance from your authorized MasterCraft dealer's service department to diagnose and, if necessary, repair the problem.

Hydraulic Steering System

Some models offer a hydraulic steering system as an option. At any time, if the steering is sluggish, difficult, or shows any signs of not working smoothly and properly, the boat should immediately be taken to an authorized MasterCraft dealer for attention. The hydraulic steering system is not accessible to the consumer for repair or maintenance, all of which should be done by an authorized MasterCraft dealer.

Shift/Throttle Control

(All Models)

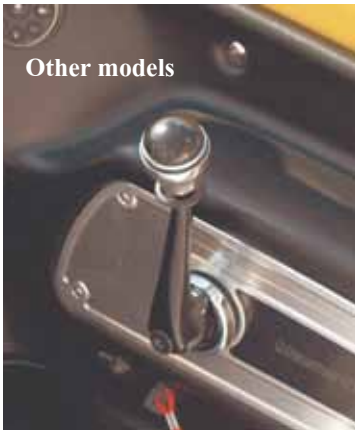
With the exception of the MariStar 280 and X-80, a one-hand, single-lever control operates as both a gear shifter and a throttle. The lever automatically locks in the neutral position (straight up and down) for safety. The lever can be moved from neutral only by raising the lifter under the ball knob. Shifting is accomplished by moving the lever forward or backward. Center (straight up) is neutral. Moving the lever forward engages the running gear; moving it back from center puts the drive train into reverse.

Never attempt to shift without the engine running!

During regular warm-up of the engine, it is possible to temporarily increase the engine RPMs without moving the boat. To accomplish this, push in the button located at the bottom of the shift/throttle lever with one hand and pull up the "umbrella" (aluminum surround below the top of the knob). Move the lever to desired position and then simultaneously release the button and umbrella. The engine will run with increased RPMs and can be increased or decreased by moving the lever. Returning the handle to the neutral position (as shown in illustration above) will bring the system back to neutral and reduce the engine RPMs to pre-set levels.

This function should be done sparingly. Over-revving the engine for any extended period can cause undue wear and tear on the engine. Avoid advancing to wide-open-throttle and holding the RPMs at that level.

In the MariStar 280 and X-80 the boat is equipped with a four-lever control. The port side lever closest to the driver is the port engine shifter, which allows the boat to move forward when shifted forward, and backward when shifted aft. The next lever is the starboard engine shifter and performs the same function. If both engines are running and the boat is moving, the shifters should be shifted



together and in the same direction. Doing otherwise can damage the system.

The next middle lever is the port engine throttle, which allows the boat to feed fuel into the engine and operate in motion. Pushing forward on it will signal the system that fuel should be sent to the port engine. The engines can be run at different levels of throttle.

This system allows greater maneuverability in docking, as well as when the boat is in operation. **However, it requires more practice and skill in order to avoid potential damage to the boat. See Engine Synchronizing Switch in this section of the Owner's Manual for more details.**

During regular warm-up of the engine, it is possible to temporarily increase the engine RPMs without moving the boat. To accomplish this, set the shifter to neutral and adjust the throttle as desired. The engine will run with increased RPMs and can be increased or decreased by moving the lever. Return the throttle to idle before shifting to Forward or Reverse.

This function should be done sparingly. Over-revving the engine for any extended period can cause undue wear and tear on the engine. Avoid advancing to wide-open-throttle and holding the RPMs at that level.

Speedometer

(All Models)

The speedometer indicates the forward speed of the boat in miles per hour (unless the boat is equipped with a speedometer that measures kilometers per hour, which is available in the optional European package.)

To calibrate the speedometer, you need an accurately measured course of 850 feet and a certified stopwatch, which is accurate to within one-hundredths (.01) of a second. (This can be done with GPS, when equipped.) To calibrate to A.W.S.A. official tournament rules:

- Approach the course at 36 miles per hour (MPH) as indicated on the speedometer. Hold the speed steady and have an observer check the course time with a stopwatch.
- If the course time is between 15.88 and 16.28 seconds, no adjustments are necessary.
- If the course time is not within that tolerance range, press up or down on the calibration rocker switch to adjust the speedometer's speed interpretation.

Temperature Gauge

(All Models)

The temperature gauge indicates the water temperature inside the engine's cooling system as measured in degrees Fahrenheit. The normal operating temperature will range from 140 degrees Fahrenheit to 190 degrees Fahrenheit. Engines with electronic fuel injection also have a control circuit inside the engine control module that will cause the engine to run at reduced speeds if the module senses that the engine is running too hot. If you notice that your speed has reduced during normal operation, but you have not manually slowed the throttle, monitor your temperature gauge. ***If the gauge indicates excessive temperatures during operation, slow down immediately and turn off the engine.*** This indicates an engine problem that needs to be checked by the dealer!

CAUTION

Continuing to operate the boat while the temperature is above normal operating parameters may cause serious damage to your engine. Damage to your engine resulting from operating the engine in an overheated condition can be costly to repair. Such damage is not covered by your warranty!

Tachometer

(All Models)

On boats not equipped with a multi-function gauge, a separate tachometer gauge is found. The tachometer indicates the engine speed in crankshaft revolutions per minute (RPM).

Voltmeter

(All Models)

The voltmeter registers the electrical activity necessary to operate your boat. If the battery (or batteries, in boat models requiring two [2]) is low or non-functional, or if various electrical items on the boat, such as stereo equipment, are draining the battery(ies) and impacting the boat's ability to function properly, the voltmeter will likely be the first gauge to indicate that you have an electrical problem. The voltmeter cannot tell you which battery is draining on boats with two (2) batteries, but rather functions as a general alarm to alert boaters regarding potential issues. On boats equipped with two (2) batteries, the alarm indicates severe drain on the engine starting battery. To determine which battery is the engine starting battery, read the markings on the battery cables.

Video Display Gauges

This section discusses the video display gauges. On some models, information is provided via traditional gauges and switches. On many models, however, this information (as well as some convenience and support data described elsewhere in this owner's manual) is given through a video display gauge. Several different video display gauges are mounted in the boats, depending on the model. General description of the functionality of the performance controls appeared in the previous section. Please note that some refinement of these gauges was in progress at press time. Therefore, the gauge in your boat may have some minor variances to what is described in this manual. MasterCraft strongly encourages you to review ALL instrumentation with your authorized MasterCraft dealer prior to operating the boat for the first time, and at any time during ownership of the boat if you are uncertain as to proper and applicable functionality.

The video display gauges are programmed to perform multiple scans, read-outs and readings for the operator. Because they are more complex than a single-action gauge, it is important for the boat operator to carefully review the functionality prior to first-time operation. The display information can be critical to safe and enjoyable operation of the boat!

ProStar 190, ProStar 197, X-7, X-1

(Standard)

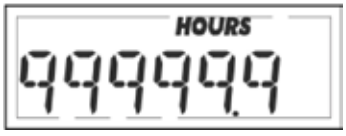
This video display in this gauge is the alpha-numeric data provided in lower half of the gauge, through which the boat operator can toggle for performance and convenience information. Navigating the LCD displays is simple and intuitive. The various screens may be accessed in a sequential order by repeatedly pressing the external display button UP/DOWN to scroll through the available screens in a continuous loop. **Note that the depth, air temperature and water temperature screens are hidden when no sensor is connected.**

The basic display sequence is:

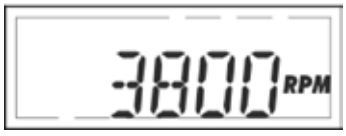
Depth

Speed

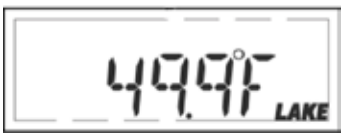
Hours



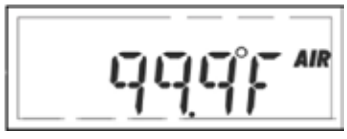
RPM



Water (Lake) Temperature



Ambient (Air Temperature



Additional Functionality:

Setting the Shallow Alarm

- The Shallow Alarm Default is set to OFF (0.0 ft/m).
- Scroll to the Depth display.
- Hold the external display button down for three (3) seconds, or until the alarm set

point is displayed and flashing, which indicates that the system has entered the set point adjustment mode.
- Adjust the set point by pressing and/or holding the external display button UP/DOWN until the desired set point is displayed.
- If no changes have been made within three (3) seconds, the system will save the set point and return to normal operation.

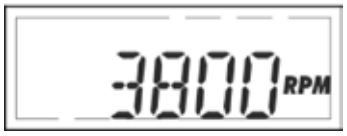
Calibration Procedure

- Scroll to the Speed display.
- Hold the external display button down for three (3) seconds. The system will enter the speedometer calibration mode as indicated by the flashing display.
- Press and/or hold the external display button UP/DOWN to adjust the displayed value until it agrees with the speedometer.
- If no changes have been made within three (3) seconds, the system will return to normal operation.

Procedure for Changing Units

- Scroll to the engine Hourmeter display.
- Hold the external display button for three (3) seconds. The display will indicate the units selected as: "ENG" for English units or "MET" for Metric units.
- Pressing the external display button UP/DOWN will toggle the display between English and Metric.
- If no changes have been made within three (3) seconds, the system will return to normal operations.
  (Anytime Metric Units are selected, the "METRIC" icon will be illuminated.)

Diagnostic Procedure

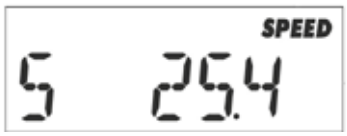


- Scroll to the Tachometer display.
- Hold the external display button down for three (3) seconds, the system will enter the diagnostic mode. All the segments in the speedometer LCD illuminate. The buzzer activates for one (1) second as the test begins. The pointer in each gauge performs the following exercise: Reset for two (2) seconds; moves to mid-scale for one (1) second; moves to full-scale for one (1) second. This cycle is repeated twice. Then the display returns to normal operation.

Easy Cruise

- Enable the Easy Cruise by switching the Cruise button on the dash.
- After the button is turned ON, a Speed icon appears in the upper right of the LCD.
- An "S" (Set Point) appears at the far left of the LCD.
- The current set point appears on the lower right of the LCD.
- The set point can be adjusted by toggling the UP/DOWN buttons on the dash.
- Drive the boat to the set point. The set point will flash if more throttle is required.

CRUISE "ON" ICON



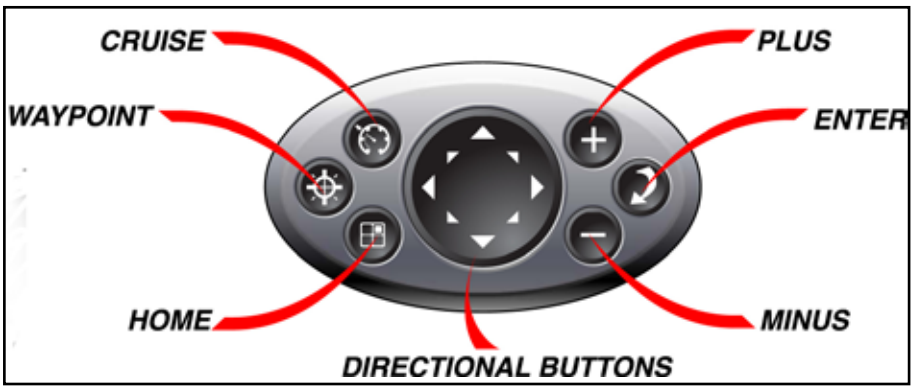
SET POINT INDICATOR

SET POINT VALUE (will flash if more throttle is needed)

280, X-80

(Standard)

Switch Pad



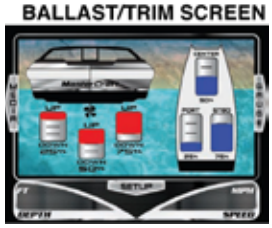
Screen Navigation

Use the LEFT and RIGHT arrow buttons to scroll through the main screens.

CRUISE SCREEN

RADIO SCREEN

BALLAST/TRIM SCREEN



DIGITAL DATA SCREEN

Use the UP and DOWN arrow buttons to navigate to the secondary screens from the main screens.

LIST SCREEN

VIDEO SCREEN

SETUP SCREEN

ANALOG GAUGE SCREEN

Quicklist Screen

The Quicklist screen displays the current rider's settings on the left side of the screen and a list of Quicklist Actions on the right. The active portion of the screen is highlighted with a large red frame. Arrow UP or DOWN to highlight any action in the list with a solid red box and press ENTER to select that action.

The ADD and EDIT actions are very similar. ADD creates a new rider in the LIST and EDIT allows changes to be made to an existing rider in the LIST.

To ADD a new rider, arrow down to ADD and press ENTER to activate the ADD mode. The large red frame will move to the left side of the screen and a blank rider profile is active. Arrow UP or DOWN to move the smaller red highlight box over the rider setting you wish to change and press ENTER to activate the item. The large red frame will move to the active right side of the screen. Use the PLUS and MINUS buttons to change the value of the item, then press ENTER to complete the change and bounce back to the left side of the screen. Repeat the process as needed for each item you wish to edit.

To EDIT an existing rider, you must first select that rider from the list if not already active. Arrow DOWN to highlight LIST and press ENTER. Arrow UP or DOWN to the desired rider and press ENTER. This rider is now active. Arrow UP to highlight EDIT and press ENTER to activate the EDIT mode. Change the rider's settings just as you did when adding a new rider. All changes are automatically saved to the rider's profile.

EDIT

RIDER NAME can be up to 14 characters. If the name is less than 14, keep pushing ENTER until the highlight box bounces back to the left side of the screen.

ADD

SAVE CURRENT will create a rider that uses all the current boat settings. The boat settings can be ballast levels, trim settings, and speed settings. The rider name may be edited if desired.

DELETE will remove the displayed rider.

EXPORT will save the current rider to the USB Flash Drive.

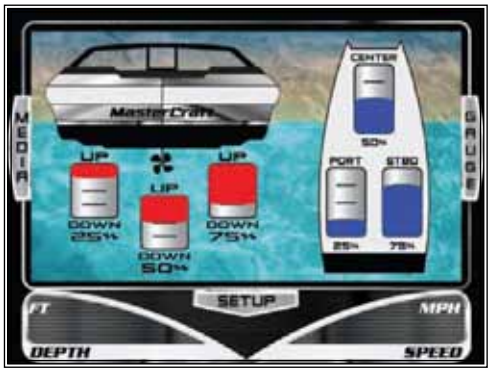
LIST will show all current riders that have been created in the system.

IMPORT will take any exported files off the USB Flash Drive into the system. This function will overwrite any riders with the same name.

RESET TO DEFAULT will erase the RIDER LIST and replace it with the factory defaults.

TRIM & BALLAST SCREEN

The Trim and Ballast screen displays tab position and ballast tank levels. The information is Plug 'n Play; therefore, if a tank or trim sensor is not present, the date will be automatically removed.



DIGITAL DATA SCREEN

The Digital Data Screen displays seven different parameters. You can choose what is displayed except for the main depth chart. To make changes, press ENTER and a highlight box will appear. Use any arrow key to move the highlight box to one of the four (4) parameters in the main screen area. Press ENTER over the highlighted item and a list of choices appears. Arrow DOWN to what you would like to display and press ENTER. After a few seconds the highlight box will disappear.

PERFECT PASS SCREEN

Use the CRUISE button to turn Perfect Pass ON and OFF. Use the "+", "-" and the ENTER buttons to navigate through the Perfect Pass screens. The DOWN arrow will bring up the Rider List.

ZERO-OFF SCREEN

Use the CRUISE button to turn ZeroOff ON and OFF. Use the "+" and "-" buttons to change the Set Point of ZeroOff. The DOWN arrow brings up the Rider List.

RADIO SCREEN

In this mode, the function of the Switch Pad button is illustrated on the big screen. The radio screen allows you to control the radio the same way the Clarion remote does. Press the ENTER button to enter the control mode. The display will turn green, indicating that the Switch Pad is now controlling the radio. If no buttons are pressed for five (5) seconds, the control returns to normal operation.

SET-UP SCREENS

RESET FACTORY SETTINGS

Returns all settings to the original factory settings. Use the ENTER button to activate the reset mode. Press the HOME button to exit.

BRIGHTNESS CONTROL

Achieved by adjusting the light levels for both DAY and NIGHT. The system will activate the NIGHT lighting when the navigation lights are on. Use the ENTER button to select the DAY and NIGHT slide bars. The up and down buttons control the adjustment. Press the HOME button to exit.

ADJUST FUEL ALARM

Also adjusted in the SETUP MENU. Use the ENTER button to activate the FUEL ALARM edit screen. Press the HOME button to exit.

SPEEDOMETER CALIBRATION

Press the ENTER button, then use the UP and DOWN buttons to change the speed. This must be done while using a GPS or radar gun as a reference. Press the HOME button to exit.

ADJUST SHALLOW ALARM

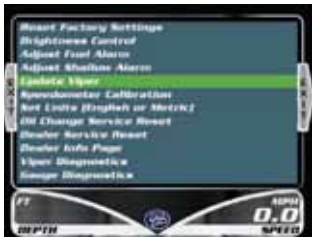
Also adjusted in the SETUP MENU. Use the ENTER button to activate the Depth Alarm Edit Screen. Use the UP and DOWN arrows to set the desired depth. Press the HOME button to exit.

SET UNITS [English or Metric]

To enter the Unit Selection Screen, press the ENTER button. Use the UP and DOWN buttons to highlight English or Metric. Press the ENTER button again to select. Press the HOME button to exit.

UPDATE VIPER

The BIG software may be upgraded by copying the new software to a USB Flash Drive and inserting it into the USB port located at the helm. The file on the flash drive must be named: Viper.App.mem. Press the ENTER button to activate the update or turn the ignition OFF and then ON. When the install is complete, the BIG will reset and automatically resume normal operation. Be sure to remove the flash drive to avoid an update on the next ignition cycle.



OIL CHANGE SERVICE RESET

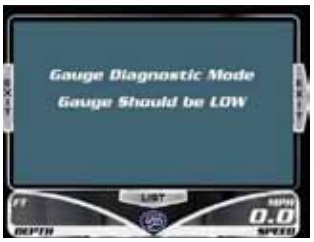
The boat will prompt you when the recommended oil change interval has occurred. This screen will allow you to reset the interval counter. Press the ENTER button to reset the alarm.

DEALER SERVICE RESET

The dealer has to reset the DEALER SERVICE REQUIRED alarm in this screen.

GAUGE DIAGNOSTICS

Will put the system into an automatic gauge sweep test mode. Press the ENTER button to activate. Press the HOME button to exit.



DEALER INFO PAGE

Will display either the factory contact information or the dealer contact information.

ACTIVE ENGINE FAULTS

This is a tool used to determine what faults are currently active in the engine ECM. They will disappear when no longer active.

VIPER DIAGNOSTICS

A tool for the technician to use in testing the system. Press the HOME button to exit.

INACTIVE ENGINE FAULTS

BALLAST CONFIGURATION

This is used to set the fill and empty times for the Jabsco ballast pumps. They can be adjusted by pressing the ENTER button and using the UP and DOWN buttons.

HOME MENU [Enable or Disable]

ABOUT VIPER

Gives you the current software revision on the boat.

FEATURE UNLOCK

There are two ways to unlock a new feature. In both cases, you will need to go to the Medallion website [www.medallioinis.com] to retrieve the unlock code.

Step 1: Get the SERIAL NUMBER from your system by going to either ABOUT VIPER or FEATURE ENABLE in the setup screens.

Step 2: If using the IMPORT in setup, copy the file to a USB Flash Drive and press the IMPORT button to read the file from the USB Flash Drive.

Step 3: If using the FEATURE ENABLE SETUP, you will need to select the feature to be unlocked.

Step 4: Enter the unlock code to enable the feature.

ALARMS AND WARNINGS

Engine Temp is a warning received from the engine ECM. See additional information under Temperature Gauge in the Instruments and Gauges section of this Owner's Manual.

Low Battery will appear when the battery falls to 10.5 volts.

Oil Level is a warning received from the engine ECM. See Engine Oil Pressure Gauge in the Instruments and Gauges section of this Owner's Manual.

Service Required is a warning received from the ECM. Contact an authorized MasterCraft dealer immediately.

Loss of CAN is a warning that will occur when the data from the engine ECM is interrupted. Contact an authorized MasterCraft dealer immediately.

Dealer Service Needed requires a dealer to reset. Contact an authorized MasterCraft dealer as soon as practicable.

Low Fuel is an alarm that will appear when the level reaches the limit that has been chosen in the SETUP screen. See Using Care When Fueling section of this Owner's Manual. Pay particular attention to recommended fuel levels; specifically, avoid allowing the setting to go below one-quarter of a tank.

Oil Pressure is a warning received from the engine ECM. See Engine Oil Pressure Gauge in the Instruments and Gauges section of this Owner's Manual.

Shallow Depth is an alarm that will appear when the level reaches the limit that has been chosen in the SETUP screen.

Check Engine is a warning received from the engine ECM. Refer to information in the Instruments and Gauges section of this Owner's Manual and contact an authorized MasterCraft dealer.

Oil Change Needed is a warning that will appear after the first 10 hours of operation. It will reappear every 50 hours after that to serve as a reminder to change the oil. The warning is reset in the SETUP screen.

Fire Extinguisher Discharged is a warning that will appear when the fire extinguisher is discharged. This icon replaces the fire extinguisher panel light on boats equipped with this feature.

X-Star

(Standard)

The instrumentation system for the X-Star features three displays that are multi-functional tools providing GPS tracking, multimedia display, cruise control and skier profiles. It also enables equipment operators to view many different engine, ballast, transmission parameters and service codes. Included are three displays: Two are linked and some changes made on either are displayed on both. The third is independent and displays engine and transmission parameters and service codes.

Port Display

Center Display

Touchscreen

Note: General maintenance is not required. However, a soft cloth can be used for cleaning the units. Window cleaner or alcohol can also be used to clean the glass portion of the display. DO NOT use harsh or abrasive cleaners on the units.

Basic Navigation Features

All features are easily accessed through the Quick Access Keys, menus and soft key commands. Some navigation and data are linked between two of the units.

Independent Port Display

The independent Port Display displays the gauges associated with the engine in both the gauge view and the digital view. It also displays the video.

Quick Access Keys

The following displays can be accessed via the Quick Access Keys: gauges, digital gauges and video.

The following controls are accessed via the Quick Access Keys: Cruise, Skier Profiles, Stereo, GPS, Home, Cruise ON/OFF, scroll UP and scroll DOWN.

Menu Key

When the Menu key is pressed once, the "On Screen Menu" is displayed on both the Center Display and the Touchscreen. When the Menu key is pressed and held, the Main Menu is displayed and provides access to the settings menu through a selection of soft keys.

Soft Key Commands

Soft key commands provide additional features and navigation shortcuts. Depending on the current screen displayed, they may appear as icons or a vertical control bar.

Touchscreen

The Touchscreen can be accessed through the Quick Access Keys on the left and right of the display screen or operated through the touch screen. Although most of the functionality is available through touching the screen, not everything can be accessed in that manner. For example, Menu items displayed on the screen are only accessible through the Quick Access Keys.

The following can be accessed through the touch screen:

- Setting up and viewing skier profiles.
- Controlling the lights.
- Setting and selecting the cruise control.
- Controlling the boat heaters.
- Setting the trim tabs.
- Controlling the video and radio.

Note: Touch points are defined by words or graphics that are outlined by a bezel look. *See example right.*

Quick Access Keys

The following controls are accessed through the Quick Access Keys: Lights, Climate Control, Video Control, Stereo Control, Cruise control, Skier Profiles, Ballasts, and Trim Tabs.

Touch Screen Navigation

Controller	*Description*
	UP or Increase: touch this to increase the value displayed. *Note:* Depending on which screen is displayed, the icon can also represent moving the highlight up.

Controller	*Description*
	DOWN or Decrease: touch this to decrease the value displayed. *Note:* Depending on which screen is displayed, the icon can also represent moving the highlight down.
	Previous: Touch to go to the previous screen.
	Next: Touch to advance to the next screen.
	Exit: Touch to exit ***without saving.***
	Bread Crumb Trail: Touch the dots to move between screens.

New Rider Profile

A new rider profile can be set up using the Touchscreen.

To create a new profile, press **Profile** on the Touchscreen.

For a new rider, touch **NEW**.

Type a name for the new profile using the touch keypad and then touch **DONE.**

Touch ▶ to move the **Speed** settings.

Touch ▶ to move the **Ballast** screen or ◀ to go back to the **Name** screen.

The ballasts are set by touching a ballast indicator and sliding your finger to the desired setting. While the ballast fill indicator is red, the ballasts are not full. When they are full the ballast fill indicator turns green. Touch ▶ to move to the **Tabs** screen or ◀ to move to the previous ballast screen.

Touch **SAVE** to save the rider and settings you created. The composite profile can be displayed on the Center Display.

Touch **SELECT** to see the rider profile. The Touchscreen displays the cruise settings, while the Center Display displays a composite of all the settings.

Touch **MODIFY** to modify the settings for the current rider. Follow the steps for setting up new profiles and touch SAVE when finished.

*(If **SAVE** is not touched, input will be lost when you leave this function and move to others in the menu.)*

Center Display Screen

Quick Access Keys

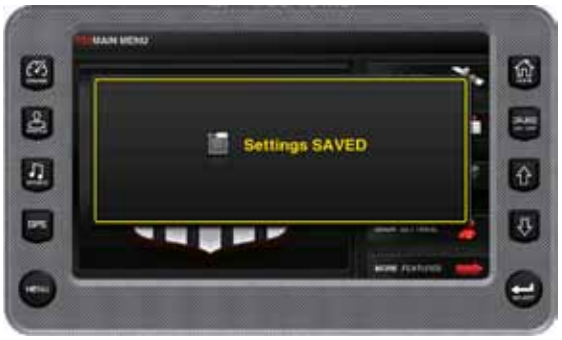
This section describes the features available through the Quick Access keys located to the left and right sides of the display.

Main Menu

The Main Menu screen for viewing engine statistics can be accessed by pressing and holding the Quick Access key.

Pressing the keys next to the Soft Key menu opens the associated settings screen.

After the settings are updated, press **ENTER**. The settings are saved whether or not the following screen is displayed.



User Settings Display–Soft key Commands

PREVIOUS/NEXT provides the ability to navigate through the settings displayed on the screen.

UP/INCREASE allows changing of the values within the settings.

DOWN/DECREASE decreases the value in the setting.

ENTER creates a new user profile from the current cruise settings.

GPS Display

The GPS Display screen can be accessed by pressing . The GPS feature displays map data, latitude and longitude coordinates, time and speed. Additional Soft Key Commands are accessed by pressing .

GPS Display–Soft Key Commands

CRUISE ON/OFF initiates cruise control or turns cruise off. While cruise is engaged the following soft keys are available:

INC increase speed while in cruise mode.

DEC decreases speed while in cruise mode.

CRUISE ON/OFF turns cruise mode off.

ZOOM IN–ZOOM OUT feature allows the operator to zoom in for more detail or zoom out for a larger view of the area map.

TRACK INFO shows the current route and any waponts that have been set. A green arrow indicates the current position while the red square indicates the initial point of trackings.

Soft Key Commands for Track Info

SAVE TRACK displays a confirmation message before saving the current track information.

DELETE TRACK displays a confirmation message before deleting the current track information.

WPT places a marker or "waypoint" on the map to mark a favorite location after displaying the following confirmation message.

CURRENT POSITION is used to return to the current boat/satellite position after having moved the cursor to another location.

GPS LAT/LONG displays the latitude, longitude, course and speed.

NORTH UP determines how the orientation of the map is displayed. Either conventional "North Up," or according to the current course heading, "Course Up."

EXIT TRACK INFO removes the Track Info soft keys and displays GPS soft keys.

UP-LEFT-RIGHT-DOWN facilitates navigation of the GPS map by moving the cross hairs accordingly.

Stereo Display

The Stereo display can be accessed by pressing the Quick Access Key. This feature provides universal control to the Clarion stereo, mimicking all the controls of a standard remote control. This includes iPod and Thumb Drive music.

Stereo Display–Soft Key Commands

VOLUME UP-VOLUME DOWN controls the volume.

PREV TRACK-NEXT TRACK plays the previous or next track of the current CD playing.

PLAY/PAUSE toggles between Play and Pause modes when a CD is playing.

SCAN to find stations.

MODE (SOURCE) choose between iPod, USB and stereo.

MUTE mutes the volume on the stereo.

POWER ON/OFF.

Rider Profiles

The Rider Profiles screen can be accessed by pressing the Quick Access Key on either the Center Display or the Touchscreen. This feature displays rider/user profiles for cruise controls based on user preferences for speed, ballast, and smart plate settings. Up to 16 rider/user profiles can be defined and stored. This information can also be loaded via a USB connection.

Profiles Screen–Soft Key Commands

PROFILES provides utilities for adding new users and editing or deleting existing users.
NOTE: Soft key commands are touch commands on the Touchscreen. *(See image immediately above.)*

UP-DOWN when positioned in the Name field moves from user to user already in the system.

NEW provides an interface to add new user information, which was explained earlier.

SELECT provides the current rider/user profile and displays some information on the Touchscreen, as well as a compilation of all user information on the Center Display.

MODIFY selects and edits the existing user name information.

DELETE USER deletes the selected user name, after a confirmation warning. A button will be displayed to the right of **NEW.**

Modify Current User

A user profile can be modified, using the Touchscreen.

Touch **MODIFY** to change an existing profile.

Touch the name to display the keyboard. Backspace through the existing name and type a new name for the profile, using the touch keypad, concluding by touching **DONE**.

Touch > to move to the **Speed** settings or < to go back to the **Name** screen.

Touch > to move to the **Ballast** screen.

The ballasts are modified by touching the ballast you want to set and sliding your finger to the desired setting. While the ballast fill indicator is red, the ballast are not full. When they are full, the ballast fill indicator turns green. Touch > to move to the **Tabs** screen or < to return to the previous screen.

*Touch **SAVE** to save the rider and settings created.* The composite profile can be displayed on the Center Display. *If **SAVE** is not touched, all changes will be lost when moving to another screen.*

Menu Options

The **MENU** is displayed by pressing and holding MENU. The following features are available:

- **GPS Utilities** contains options to set up tracking and position, chart and time and waypoint manager. It also displays satellite status.
- **Cruise** settings display.
- **User Settings** allows the operator to customize the display options for ambient light and brightness, set U.S. or metric units, specify the Home screen and screen set-up status.
- **Engine Diagnostics** displays a list of engine fault codes and descriptions. On some engines, corrective action will be shown.
- **Utilities** allows configuration of the unit, including wire configuration, plug address, fault conversion, CAN data and fault codes. This also displays software version information at the top of the page.
    - System
    - Ballast

User Settings

User Settings provides options to specify viewing preferences. Pressing **PREV** and **NEXT** navigates through the options, and **UP** and **DOWN** scrolls through the selections for each option.

Soft Key Commands for User Settings include:

PREV-NEXT moves from setting to setting and field to field.

+Up/Increase or -Down/Decrease increases or decreases values within a field.

ENTER saves the current values and exists.

Auto Backlight

This setting enables and disables the auto backlight feature. If enabled and the navigation light is turned on, the displays will reduce the screen brightness.

Brightness

The brightness control is accessed by using the UP and DOWN soft keys to change the settings in five percent (5%) increments until the desired brightness is achieved.

Minimum Depth

A minimum depth can be selected (measured from the bottom of hull) to give an alarm if the vessel comes into a minimum depth situation. Choosing "zero" turns this option OFF.

Audio Intensity

The Audio Intensity feature allows the operator to set values to automatically increase or decrease the audio volume, according to what speed the boat is travelling.

Engine Diagnostics

When choosing this selection, the display will query the engine(s) ECU, as illustrated and provide feedback on any diagnostic codes that have been activated and stored in the ECU for service needs.

Soft Key Commands for Engine Diagnostics include:

GET FAULTS is the query to the engine(s) ECU for feedback on diagnostic codes that have been activated and stored in the ECU for service needs.

UP-DOWN navigates through the fault list.

The following is a list of field definitions contained on the *ENGINE DIAGNOSTICS* screen:

- **Source** identifies the component having the fault: engine 1,2 or auxiliary.
- **Status** indicates whether the fault has been corrected.
- **SPN** "Suspect Parameter Number" fault code. If not translated into text by the display, see the engine manufacturer's information for the definition of the SPN number.
- **FMI** "Failure Mode Indicator" fault code. The FMI is defined by SAE J1939. If not translated into text see the SAE standard or the engine manufacturer's information.
- **Count** is the number of times the event has been flagged.
- **Description** provides the most common SPNs and FMIs that have text for the description stored in the display. If there is no text, then this SPN and FMI must be defined by referring to the engine manufacturer or the SAE J1939 standard. NOTE: This field is only used with certain brands and models of engines.
- **Correction** is the suggested action for correction.

Fault Code Pop-ups

A fault condition will trigger a pop-up dialog box on the screen describing the nature of the fault.

How to Hide/Show Faults

To hide the fault code pop-up being displayed on the screen, press the soft key next to the "Hide" icon. The pop-up will disappear. However, the "Warning" or "Stop" icon will remain on the screen to indicate there is still a fault. Pressing "Hide" does not clear the fault. It only hides the pop-up message.

When a fault code has been hidden, a "Show" icon will remain in the bottom right corner. When this soft key is pressed, the fault code will again be displayed.

Scrolling Through Multiple Messages

The title bar of the fault code pop-up may indicate multiple messages, as in "Diagnostic Message 1 of 3." Press to scroll through the different messages.

Utilities

The Utilities menu provides tools to configure wiring and communication settings and Default Settings for adjusting the ballasts and smart plate.

Soft Key Commands located through Utilities include:

UP-DOWN changes the value of the current field.

PREV-NEXT moves from field to field.

RESTORE DEFAULTS loads the factory defaults after display a confirmation warning.

SAVE/EXIT saves the current values and exits.

System Settings

The System Settings screen displays the current software version loaded in the unit. It is typically only accessed when the unit is first installed in order to configure the unit. You can set individual settings for the available options, or choose to select RESTORE DEFAULTS for the factory settings.

Default Settings

This screen provides various fields for adjusting the values for ballast and the smart plate. The Smart plate Crossover point also defines the threshold for setting the automatic audio volume control.

GPS Utilities

When using a GPS device, GPS Utilities will allow the operator to configure and monitor satellite tracking data.

Satellite Status

This feature displays a graphic indicating the satellites currently visible in orbit and the signal strength of each satellite.

Depth and Position Setup

This feature allows the operator to define the amount of detail to display for longitude and latitude information on the GPS map and depth display.

Chart and Time Setup

This menu option allows the operator to set up viewing options for the **GPS** Display.

Chart Setup Parameters. Use the **CHECK/UNCHECK** soft key to select the information to be displayed on the GPS screen.

Time Setup Parameters

Time Setup Parameters is used to select the correct time zone and clock mode for either 12-hour or 24-hour time formats. It is also possible to enable DST (Daylight Savings time) by using the **CHECK/UNCHECK** soft key to select the box.

Waypoint Manager

Waypoints allow the operator to mark specific locations by latitude and longitude. After the waypoints are established, the Waypoint Manger allows the operator to associate an icon with them for identification. Use the **DELETE** key to delete a single waypoint, or **DELETE ALL** to remove all of them at once.

Waypoint List displays a list of the waypoints that have been set. Use the UP and DOWN keys to highlight the desired waypoint.

Waypoint Icon allows the operator to assign one of four different icons to any of the waypoints listed.

Lat/Lon displays the latitude and longitude values for the currently highlighted waypoint on the list.

Track Manager

It is possible to set up multiple tracks for displaying on the **GPS** map. The **Track Manager** allows the operator to select tracks to "show" on the map or "hide" a map not currently in use. Operators can **DELETE** one track or "Delete All Tracks" at once.

General Troubleshooting Guide

IF...the display appears to not work or doesn't come ON...
- ...the display could be in SLEEP mode. Touch a key on the keypad to activate the display.
- ...check for loose connections at the battery and display unit.
- ...check for reversed polarity on the power connections.
- ...verify that the battery has a minimum voltage of 6 volts.

IF...the display resets or goes OFF when starting the engine...
- ...check that the display supply wires are connected properly to the battery.
- ...verify that the battery is charged properly.
- ...check the battery for efficient starter current.

IF...the display has no backlight...
- ...contact your authorized MasterCraft dealer for assistance.

IF...the display has no keypad backlight...
- ...contact your authorized MasterCraft dealer for assistance.

200V, X-2, 215V, X-15, 225V, X-25, 235V, X-35, 245V, X-45, 255V, X-55, ProStar 214, X-14, ProStar 214V, X-14V,
(Optional)

USING THE OPTIONAL COLOR TOUCH DISPLAY

The controls and displays on the touch screen change dynamically depending on the task you are performing.

Navigating the main screens from the HOME screen

- From the **HOME** Screen tap any screen icon to go to that screen.

- Press the **HOME** button, located in the information bar along the bottom of any main screen, to return to the **HOME** Screen.

Navigating the main screens using the scroll buttons

- Frequently used screens are arranged in a continuous loop and may be accessed by using the scroll right and scroll left buttons located in the information bar along the bottom of each main screen.

Activity-based screen jumps

When certain events occur, the display anticipates the need to view related data and automatically jumps to the appropriate screen.

- Actuating any of the trim or ballast switches in the boat results in the display jumping to the **TRIM/BALLAST** screen.
- Pressing the boat's cruise button results in a jump to the **CRUISE** screen.

HOME SCREEN

Controller	*Description*
	Touch this to go to the **CRUISE** screen.
	Touch this to go to the **QUICK LIST** screen.
	Touch this to go to the **ANALOG GAUGE** screen.
	Touch to go to the **DIGITAL GAUGE** screen.
	Touch to go to the **MEDIA** screen.
	Touch to go to the **TRIM BALLAST** screen.
	Touch to go to the **SETUP** screen.
	Touch to go to the **NAV** screen.
	Scrolls left or right or return to **HOME** screen.

MEDIA SCREEN

Controller	*Description*
	Touch to display video from **DVD,** where equipped.
	Touch to display video from the **Tower Camera,** where equipped.
	Touch to go to the **HOME** screen. Touch to scroll left to the **CRUISE** screen. Touch to scroll right to the **TRIM/BALLAST** screen.
	Touch to increase the audio volume.
	Touch to decrease the audio volume.
	Touch and the sound is muted or play is paused. Press again to cancel.

ADDITIONAL MEDIA SCREEN CONTROLS

Controller	*Mode*	*Response*
	CD/MP3 or USB/iPod Mode	Starts playback from the beginning of the current track.
	Radio/SAT Mode	Tunes in a lower frequency station.
	CD/MP3 or USB/iPod Mode	Starts playback from the beginning of the next track.
	Radio/SAT Mode	Tunes in a higher frequency station.
	Radio/SAT Mode	Scrolls to next preset station.
	MP3 or USB Mode	Selects folders.
	Each time the **Source** icon is pressed, the mode switches in the following order: Radio Satellite CD MP3 USB/iPod CD Changer AUX	
	Each time the button is pressed the band switches in the following order: Radio: FM1, FM2, FM3, AM, FM1	
	Confirming your selection.	
	Each time the button is pressed the **Automatic Volume Control** feature is toggled from **ON** to **OFF** or **OFF** to **ON**.	

DIGITAL GAUGE SCREEN (Normal View)

Displays	*Description*
	Displays the approximate percentage of fuel left in the tank.
	Displays the ambient air temperature in Fahrenheit (default).
	Displays the ambient water temperature in Fahrenheit (default).
	Displays the depth of the water in feet (default).
	Displays a histogram of the water depth.

Controller	*Description*
	Touch to go to the **HOME** screen.
	Touch to scroll left to the **TRIM-BALLAST** screen.
	Touch to scroll right to the **CRUISE** screen.

DIGITAL GAUGE SCREEN (With Edit Controls Displayed)

In each quadrant of the screen is a measurement: upper left is the remaining fuel in approximate percentage; the upper right is the ambient air temperature (Fahrenheit is default setting); the lower left is the water temperature (Fahrenheit is default setting); and the lower right is the water depth (in feet is default setting).

Touch the quadrant to be edited and a pull-down menu will appear. These are settings and functions that can be substituted by touching the name on the screen.

If no display is pressed within five (5) seconds, the edit controls will disappear and the screen will return to the settings as they were.

Controller	*Description*
	Touch to scroll up the list.
	Touch to scroll down the list.
	Touch to select an item in the list, update the **GAUGE** screen data block and close the edit screen.

TRIM & BALLAST SCREEN

Displays	*Description*
	Reports roll data.
	Displays the roll in animation.
	Displays the total weight of the water in the ballast tanks, where equipped.
	Displays the trim tab positions in animation, where equipped.

Displays the ballast tank levels in animation.

Displays the pitch of the boat in degrees.

Touch to go to the **HOME** screen.

Touch to scroll left to the **MEDIA** screen.

Touch to scroll right to the **DIGITAL GAUGE** screen.

NOTE: The trim tabs and ballast tanks are Plug 'n Play tabs. Any other tabs or tanks are not displayed.

CRUISE OFF SCREEN

Controller	*Description*
	Touch to turn on Cruise in speed mode.
	Touch to go to the **QUICK LIST** screen.
	Touch to turn on Cruise in RPM mode.
	The left button goes to the next screen on the left. The right button goes to the next screen on the right. The **HOME** button goes to the **HOME** screen.

CRUISE ON SCREEN (Illustrated in Speed Mode)

Controller	*Description*
	Touch to increase the speed set point.
	Touch to decrease the speed set point.
	Touch to turn Cruise off and goes to the **CRUISE OFF** screen.
	The left button goes to the next screen on the left. The right button goes to the next screen on the right. The **HOME** button goes to the **HOME** screen.

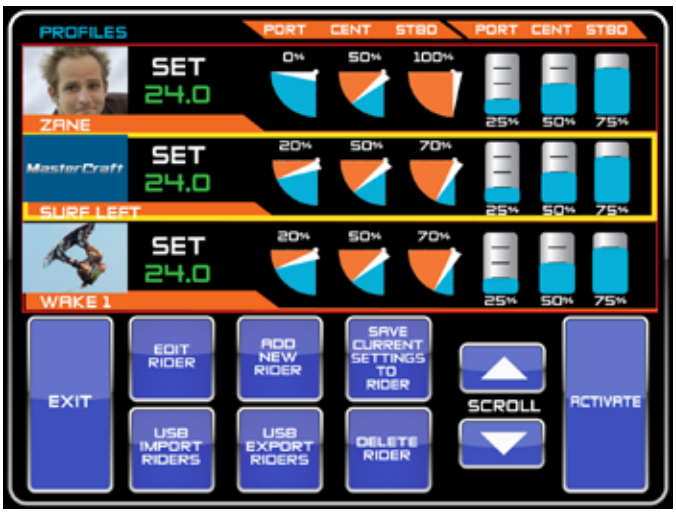
CRUISE ON SCREEN (Illustrated in RPM Mode)

Controller	*Description*
	Touch to increase the RPM set point.
	Touch to decrease the RPM point.
	Touch to turn Cruise off and goes to the **CRUISE OFF** screen.

The left button goes to the next screen on the left. The right button goes to the next screen on the right. The **HOME** button goes to the **HOME** screen.

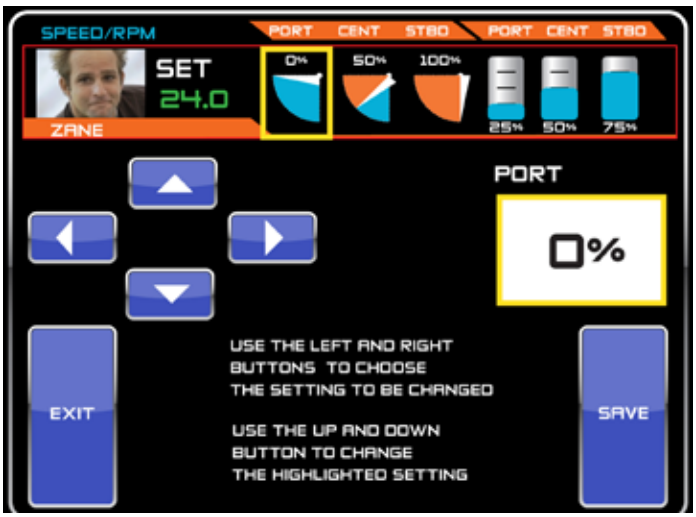
Touch to go to the **DELETE RIDER** screen.

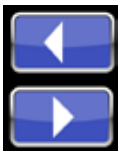
QUICK LIST SCREEN



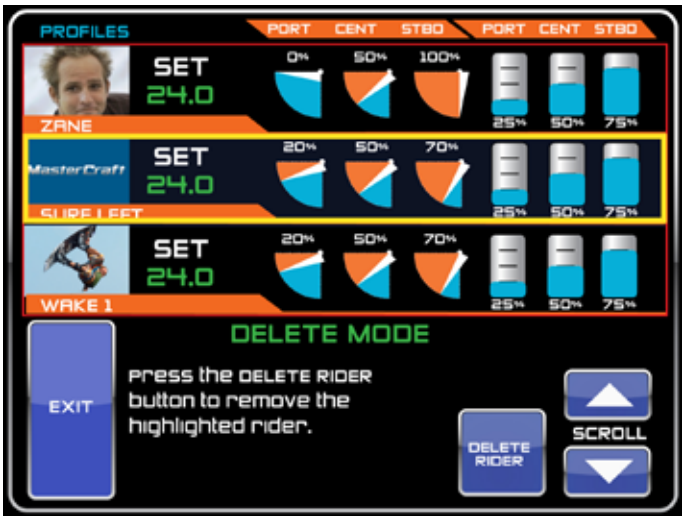
Controller	*Description*
	Touch to scroll up through list of available riders.
	Touch to scroll down through list of available riders.
	Touch to activate the selected (hi-lighted) rider profile.
	Touch to exit ***without activating a new rider***, and go to the **CRUISE** screen.
	Touch to go to the **RIDER EDIT** screen.
	Touch to go to the **USB IMPORT** screen.
	Touch to add a new rider to the list and go to the name edit screen.
	Touch to go to the **USB EXPORT** screen.
	Touch to save the current settings to the selected rider.

EDIT RIDER SCREEN



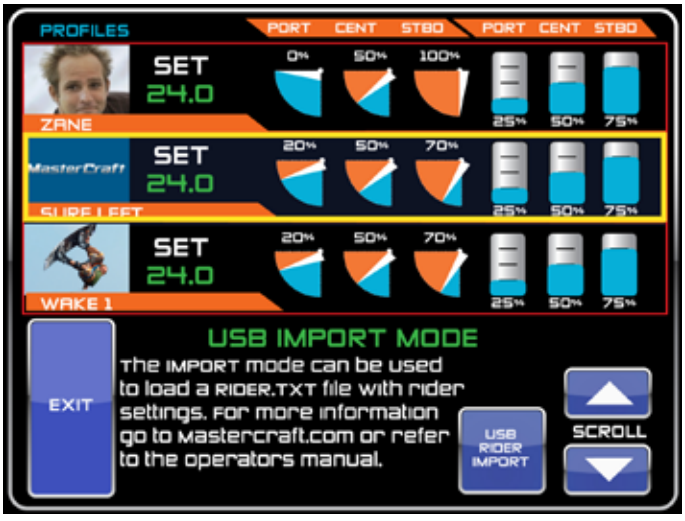
Controller	*Description*
	Touch to scroll right or left to select the rider setting to be edited. The selected setting is highlighted in yellow.
	Touch to increase or decrease the selected rider setting.
	Touch to exit without changing any rider settings and go to the **QUICK LIST** screen.
	Touch to save changes to the rider's settings and return to the **QUICK LIST** screen.

DELETE RIDER SCREEN



Controller	*Description*
	Touch to scroll through the list of available riders.
	Touch to delete the selected (highlighted) rider and all associated settings from the **QUICK LIST**.
	Touch to exit without deleting the rider information and go to the **QUICK LIST** Screen.

RIDER IMPORT MODE


PROFILES
PORT CENT STBD PORT CENT STBD
SET 24.0
ZANE
SET 24.0
SLIDE LEFT
SET 24.0
WAKE 1
USB IMPORT MODE
The IMPORT mode can be used to load a RIDER.TXT file with rider settings. For more information go to Mastercraft.com or refer to the operators manual.
EXIT
USB RIDER IMPORT
SCROLL

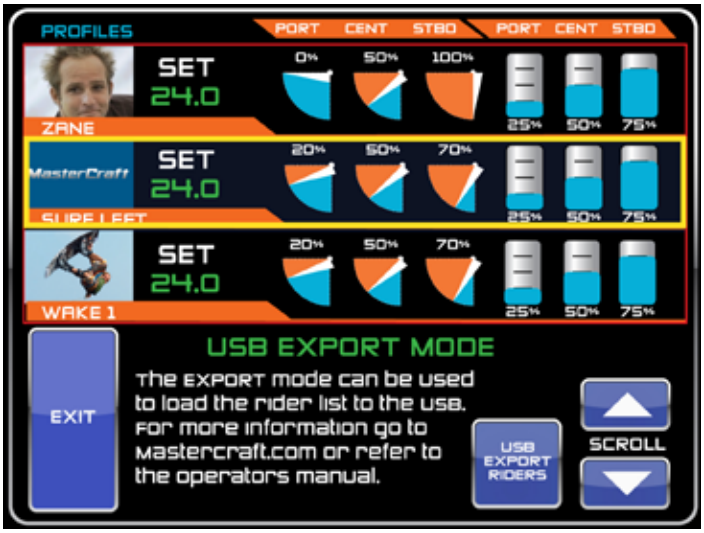
Controller	*Description*
	Touch to scroll UP or DOWN.
	Touch to import rider data.
	Touch to exit *without importing*.

NOTE: The preferred settings for each rider may be shared from boat to boat by using the USB export and import features. Rider data is stored and shared in a Text File Format with the following file name: riders.txt. The file must be located in a MasterCraft folder located in the root of the USB flash drive.

Importing new rider data for an existing rider name will over-write the original data stored in the video display gauge for that rider.

Create customized rider data at mastercraft.com/bigscreen/.

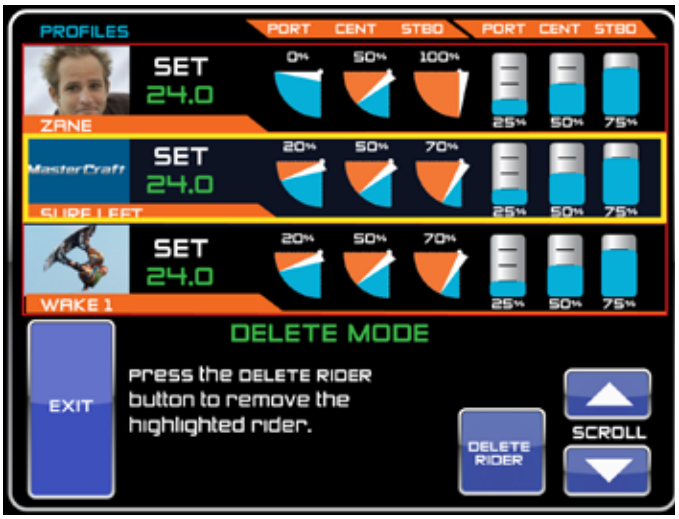
RIDER EXPORT DATA


PROFILES
PORT CENT STBD PORT CENT STBD
SET 24.0
ZANE
SET 24.0
SLIDE LEFT
SET 24.0
WAKE 1
USB EXPORT MODE
The EXPORT mode can be used to load the rider list to the usb. For more information go to Mastercraft.com or refer to the operators manual.
EXIT
USB EXPORT RIDERS
SCROLL

Controller	*Description*
	Touch to scroll UP or DOWN.
	Touch to send the selected rider data to the USB flash drive.
	Touch to exit *without exporting*.

NOTE: The preferred setting for each rider may be shared by using the USB export and import feature. Rider data is stored and shared in a Text File Format with the following file name: riders.txt.

DELETE RIDER INFORMATION



Controller	*Description*
	Touch to scroll UP or DOWN.
	Touch to delete all information at this setting.
	Touch to exit *without exporting*.

INFORMATION BAR (with Cruise OFF)

INFORMATION BAR (with Cruise ON)

Controller	*Description*
	Touch to go to the HOME screen.
	Touch to scroll left.
	Touch to scroll right.
	Pressing the data block brings up pop-up controls to allow the set speed to be increased or decreased.

NOTE: When the Cruise Control is OFF, the data block in the INFORMATION BAR displays the boat's actual speed. When the Cruise Control is ON, the cruise icon is displayed in the center of the INFORMATION BAR. When the Cruise Control is ON, the data block in the INFORMATION BAR displays the set speed and the font color changes to green. Also, pressing the speed data block causes the pop-up speed controls to appear superimposed on the current screen. If no controls are pressed, the pop-up controls are hidden.

The cruise control information is provided earlier in this section.

VIEWING VIDEO INPUTS

The video screens are accessed by touching the DVD & Tower Camera icons on the MEDIA screen.

Controller	*Description*
	Touch to display **Video Input-1,** then to DVD.
	Touch to display **Video Input-2,** then to tower camera.

Video screens initially display the video input channel.

After a brief delay, the full-screen video content is displayed:

Touch any spot on the screen to bring up user controls along the bottom of the video screen:

Controller	*Description*
media	Touch to display the **MEDIA** screen.
TAG	In Clip mode: Touching TAG initiates a recording or inserts a video tag. In Loop mode: Touching TAG saves the current video loop.
STOP	Touch to stop recording.

If no icons are touched, the video reverts to the full-screen video.

Please note that some refinement of these gauges was in progress at press time. Therefore, the video display gauge in your boat may have some minor variances to what is described in this manual. MasterCraft strongly encourages you to review ALL instrumentation with your authorized MasterCraft dealer prior to operating the boat for the first time, and at any time during ownership of the boat if you are uncertain as to proper and applicable functionality.

Boats with this video display gauge will have the following gauges mounted in the instrument panel. Brief descriptions of the functions are included here. For more in-depth description of the functionality, see the *Performance Controls* section of this Owner's Manual.

Speedometer

(Larger numbers are miles per hour; smaller interior numbers are kilometers per hour.)

Tachometer

(Measurement is in revolutions per minute.)

Multiple Readings

Interior ring: Fuel reading. E is empty, F is full. Top arm provides reading.
Lower left quadrant: Engine oil pressure in pounds per square inch.
Lower right quadrant: Engine temperature in Fahrenheit (default).

Sport Enhancement Controls

Attitude Adjustment or Trim Tab Switch

(All V-Series, including X-Series)

MasterCraft utilizes Lenco attitude adjustment plate kits on several models. Dual plate kits are available on the 280 and X-80 models; a single plate kit is used on the 200, X-2, 215, X-15, 235, X-35, 245 and X-45, 255 and X-55. On the dual attitude adjustment plate system, the plates operate independently of each other to provide optimal performance by redirecting water flow near the transom of the boat. These plates have been designed to improve the overall attitude of a boat. If used properly, the plates will improve the ride, reduce drag, increase speed and improve the fuel efficiency of the boat.

The operation of the attitude adjustment plates is basic. The plane or planes are mounted with the actuator(s) on the transom of the boat. When the plate(s) is/are lowered, the water flow is redirected, creating an upward force at the stern of the boat. When the stern rises, the bow will lower.

Since these actuators are electromechanical, they provide an immediate response at the touch of the switch. The switch adjustments are based on the position of the bow. On the dual attitude adjustment plate system, the right side of the switch controls the starboard plate and the left side of the switch controls the port plate. On the single plate system, there is only one switch control.

The system is set up this way to minimize the guesswork while underway. Press DOWN to lower the bow. Press LEFT to roll the boat to the left, and RIGHT to roll the boat to the right.

Since our models have different weights, lengths, speed and performance, it will take some practice for the operator to understand how your boat reacts with the attitude adjustment plates installed. The plates will allow your boat to get on plane faster and continue planing at lower speeds. This will improve visibility and the overall safety of your boat. **When making adjustments with the attitude adjustment plates, use short momentary taps of the switch.** Continued practice will help you become familiar with how the plates perform.

Special Conditions

Head Sea: Lower both plates by tapping slightly BOW DOWN on both sides of a dual system, BOW DOWN on a single system. This will bring the bow down while maintaining speed. This also allows the hull of the boat to absorb the impact of the waves. This adjustment will result in a more efficient and smoother ride. Changes should be made in small increments to ensure maintaining control of the boat.

Following Sea: Make sure the plates are fully retracted by pressing BOW UP on both sides of a dual system, and BOW UP on a single system. This will bring the plate(s) up to a fully retracted position, decreasing lift in the stern and allowing the bow to rise. If the plate(s) is/are deployed, the bow may dig.

Windy Chop: To raise the windward side of the boat on dual systems, press BOW UP on that side. If this is not sufficient press BOW DOWN on the leeward side of the boat. Do not over-trim when attempting this. This will allow the windward side of the boat to rise and will minimize spray.

Shallow Water/Hole Shot: Lower both plates completely on a dual system by pressing BOW DOWN on both sides (the single plate on a single system). This provides lift in the stern of the boat and will keep the bow down. As you throttle up and speed increases, raise the tab(s) by pressing BOW UP on both sides of a dual system, and BOW UP on the single system.

Uneven Load: When equipped with a dual system, if one side of the boat is higher than the other while running, press BOW DOWN on the switch on that side. This will lower the tab on the listing side (low side) to bring the boat level.

Porpoising: To stop porpoising, press BOW DOWN on both sides of a dual plate system, BOW DOWN on a single system. The plate(s) needs only to be deployed slightly to correct this adverse situation.

⚠ WARNING

While operating attitude adjustment plates use caution. Improper use of plates can cause accidents, which may result in serious injury or death. While the boat is underway do not move one plate up or down significantly as this may cause listing. While at higher speeds do not over-trim, as this will cause the bow to lower quickly, resulting in a reduction of speed and may cause the boat to veer. When in following seas or when running an inlet, the plates should be fully retracted. This will allow for optimal performance. ELECTROMECHANICAL ACTUATORS PROVIDE AN INSTANT RESPONSE. WHEN MAKING ADJUSTMENTS, USE SHORT MOMENTARY TAPS OF THE SWITCH.

Ballast Empty/ Fill Switches

(On Ballast-equipped Models Only)

On boat models equipped with a ballast system, a separate three-position switch will allow for the filling or emptying of the ballast tanks and/or bags. **Be aware that the engine must operate at 1500 RPM during the fill and empty processes.** Check engine specifications for related engine idle speed, which may be too low for the empty/fill operation to be properly accomplished. Failure to increase engine RPM to the required level may result in malfunction or permanent damage to the ballast pumps that force the water through the system. Such damage is not covered under your warranty. The ballast controls vary in location by model, and the operator should determine exact location prior to use. The three-position switches are clearly marked; FILL, OFF (in center), and EMPTY.

An LED light is in the tip of each switch. At the conclusion of the FILL process, the light will blink six times in succession, pause for two-to-three seconds, and then blink an additional six times. This signals that the FILL process is complete. If the system senses any potential problems, the LED lights may blink from one to five times (each signifies individual issues). If this occurs, see an authorized MasterCraft dealer for analysis and correction. Do not attempt to correct the issue on your own or continue to FILL the ballast as it may result in damage to the system.

Mirrors

Whether utilizing the standard mirror or the optional Extreme mirror, just as you would in a car, you should always check that the mirror is properly located to view behind the boat while it is underway. Also be sure that it is securely attached to the windshield extrusion. Under normal operation, there is a certain amount of vibration and over time this can cause brackets and hardware to work loose.

CAUTION

Prior to operation of the boat, verify that the mirror hardware is secure. Failure to do so may result in the mirror detaching from the windshield extrusion. The mirror could hit the operator or a passenger, resulting in injury.

Plug 'n Play

The Plug 'n Play ballast system gives consumers the ability to mix and match ballast loads as an option on V-Series boats. If ordered as an option, the plumbing for the Plug 'n Play will come from the factory ready to install bags forward and aft. MasterCraft strongly recommends using only the Plug 'n Play bags from Fly High as they have been customized to fit neatly in storage areas. The rear bags take into consideration such factors as bulkhead dimensions and the raw water strainer location of each specific model. The forward bags are built to the dimensions of the storage area under the seats and around obstructions such as stereo amplifiers and wiring. Note that the bags are intended to be left inside the storage compartments even when not filled with water. The bags, particularly if they are wet, should not be left in contact with upholstery anywhere in the boat.

The most important consideration in developing these additional ballast bags was to work within the maximum capacity of each MasterCraft model in which they are equipped. **WHEN THE PLUG 'N PLAY BALLAST BAGS ARE FILLED, THE ADDITIONAL WEIGHT OF THE BAGS AND WATER MUST BE SUBTRACTED FROM THE MAXIMUM WEIGHT CAPACITY OF THE BOAT , WITH THE REMAINDER LEFT FOR PASSENGERS AND GEAR!** ***It is always the operator's responsibility to ensure the weight of their specific MasterCraft boat, persons aboard, ballast and gasoline weight, and all gear are within Coast Guard limits.***

An objective in engineering this system was for the secondary ballast bags to fill and empty with the existing ballast pumps at the flip of a switch. In order to accomplish this, the auto-fill-and-empty system that is equipped on all boats without the Plug 'n Play option is bypassed. Although you can use the BIG's Ballast screen to see if the tanks are full (or listen for the overflow), there are no sending units in ballast bags, so no bag level readout is available on the BIG. **The operator should open the front and rear storage areas where the bags are located to watch the actual bags themselves to see when they are full. To reiterate, there is NO Auto Shut-off feature for Plug 'n Play.**

WARNING

All boats have weight limits. Failure to adhere to the posted limits can cause operation instability and/or the boat to sink. This may result in serious injury or death, as well as significant damage to the boat, which will not be covered by warranty. WHEN THE PLUG 'N PLAY BALLAST BAGS ARE FILLED, THE ADDITIONAL WEIGHT OF THE BAGS AND WATER MUST BE SUBTRACTED FROM THE MAXIMUM WEIGHT CAPACITY OF THE BOAT , WITH THE REMAINDER LEFT FOR PASSENGERS AND GEAR!

Here are a few additional things to know about Plug 'n Play:

1. To install the bags, you will need to remove the plugs that will come with all the plumbing. MasterCraft recommends you keep track of these plugs and place them back in the plumbing when and if the bags are removed. **Without the plugs or bags in place, water will make its way into the boat through these lines.**

WARNING

If the Plug 'n Play bags are removed from the boat, the plumbing plugs must be reinstalled in the boat to prevent unwanted and potentially dangerous intrusive of water into the boat. This water can result in the boat sinking, which can result in serious injury or death!

2. Once the bags are installed, you are ready to go. In order to fill the ballast bags, after the hard tanks are filled find the Plug 'n Play switches and simply move the switch to the right so the indicator light turns from green light (tanks) to a red light (bags). This activates the electronic valve that switches water flow from the hard tanks to the bags. Once red, the bags are ready to fill by selecting the appropriate ballast switch. Please note that the Plug 'n Play switches control the forward and aft systems separately. Pressing and holding the Up button will cause the center tab to retract and then the surf tabs will retract.

Ski/Wakeboard Rope

MasterCraft boats are equipped with ski pylons as standard equipment, and may also offer other optional pylons and towers intended to be used to attach rope for skiing and wakeboarding. Note that tow ropes should never be attached to anything but the approved pylon or tower. Care should also be taken by all on board to pay attention to the tow rope as it can snap back and hit people on-board when a skier or wakeboarder lets go of it. Usually, rope simply skips along the water surface behind the boat, but it can become airborne, especially if it was taut prior to release.

WARNING

Ski/wakeboard rope should never be attached to anything but approved pylons and towers as it may otherwise break free or cause other items to break under duress. People onboard, as well as skiers and/or wakeboarders could be injured. Also, operators and passengers should always pay attention to the rope when the boat is underway as rope can snap back into the boat, which could result in injury.

Surf Tab Switch

(All V-Series, including X-Series)

On boats equipped with a surf tab switch, it will be located on the armrest. Shown is a trim tab (upper switch) with a surf tab switch (lower switch). (See the Attitude Adjustment or Trim Tab Switch explanation elsewhere in this section for information on how to utilize that functionality.) The surf tab switch is pressed LEFT to list the boat to port (or left), raising the right (starboard) side of the boat. Press RIGHT to list the boat to right (starboard) and lift the left (port) side of the boat. This information will also appear in the Video Display Gauge, as equipped.

Note: On the 200V, X-2, 215V, X-15, 225V, and X25 models, surf tabs are limited to fifty percent (50%) maximum extension when the boat speed exceeds twenty miles per hour (20 mph) or thirty-two kilometers per hour (32 kph). Because the surf tab causes the boat to list to port or starboard side, it is important for operators to be aware of how it impacts handling.

Maneuvering a boat with the surf tabs extended requires practice to master. Initial times running with the surf tabs extended should be done at low speed with plenty of room. This is critical to learning how the surf tabs affect control and maneuverability.

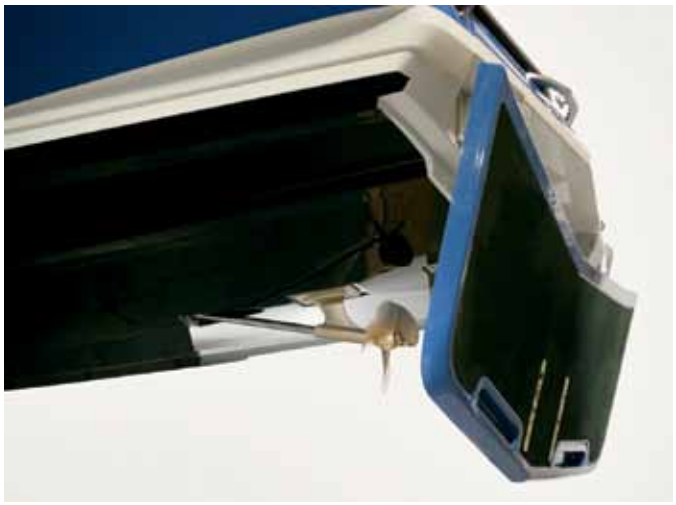
WARNING

ELECTROMECHANICAL ACTUATORS PROVIDE AN INSTANT RESPONSE. WHEN MAKING ADJUSTMENTS, USE SHORT MOMENTARY TAPS OF THE SWITCH.

Swim/Boarding Platforms

One of the most attractive aspects of all MasterCraft boats are the swim platforms attached to the transom of the boats. Whether teak or fiberglass with inlays, the swim platforms are a source of enjoyment.

MasterCraft reminds consumers to review the *Common Sense Approach* section of this Owner's Manual, and pay particular attention to avoiding "teak surfing" or "platform dragging," which expose the participant to excess carbon monoxide; and to the information regarding use of the optional shower while standing or sitting on the swim platform.



DANGER

Carbon monoxide is a colorless, tasteless, odorless and poisonous gas that accumulates rapidly and can cause serious injury or death. Exposure to carbon monoxide can be fatal in a matter of minutes. Exposure to even low concentrations of carbon monoxide must not be ignored because the effects of exposure to carbon monoxide can build up and be just as lethal as high concentrations. Carbon monoxide from exhaust pipes of inboard or outboard engines may build up inside and outside the boat in areas near exhaust vents, particularly during slow-speed operations. STAY AWAY from these exhaust vent areas, which are located at the stern of the boat, and DO NOT swim or engage in any watersports or other activities in or near the stern area of the boat, including, without limitation, the swim platform and the rear sun deck, when the engine is in operation. Under no circumstances should the owner and/or operator allow persons to hold onto the swim platform while the engine is operating and the boat is in motion. These activities (sometimes known as "teak surfing" or "platform dragging," where the participant holds onto the swim platform and is pulled through the water, and/or "body surfs" immediately behind the boat) are extremely dangerous, highly likely to result in death or serious bodily injury, and are a misuse of this product.

Some platforms feature a bracket, which allows the platform to fold down, reducing the amount of room required for storage. Note that the platforms themselves are fairly heavy, and releasing the bracket may result in the platform falling down and striking the transom with excessive force. Please provide support to the platform at the time of releasing the bracket, and slowly lower the platform into place for towing or storage.

Many models are equipped with a swim platform that may be folded down. To determine whether the boat is so equipped, look beneath the platform and see if the bracket with pin appears as in the photo. If so, the swim platform can be folded. To do so properly, follow these instructions:

Folding Down the Platform

Remove the safety hinge pins in each swim platform bracket.

Begin by lifting the platform about four (4) inches upward while easing the platform away from the boat transom. This will allow the platform to move freely on the hinge.

NOTE: Ensure there is no tightness while the swim platform is being folded. There should be no binding during this action.

CAUTION

The platform must be raised and locked into position for transportation of the boat, as well as use of the platform while boating. Leaving the platform down may result in damage to the boat transom during transport that will not be covered by the warranty!

Securing the Platform

Step 1: Lift the platform to approximately 20 degrees angle from the boat.

Step 2: Lightly push the platform (do not shove nor jam) toward the transom to allow the platform to set in place.

Step 3: Verify that the platform is in the locked position and will not fall down. Failure to verify that the platform is locked may result in the platform falling while someone is on it and could result in injury.

Step 4: Insert one (1) safety hinge pin into each platform bracket as shown in the top photo.

WARNING

The platform must be raised and locked into position for use of the platform while boating. No one should be allowed on the platform until the platform is securely locked in place and the engine is OFF. Failure to do so may result in serious injury or death!

Towers

Many MasterCraft models are now equipped with a tower, whether as part of a standard package or as an optional addition. Again, MasterCraft strongly encourages the occupants of the boat to review the C*ommon Sense Approach* and the *Boating Safety* sections of this Owner's Manual prior to use of the boat and the tower component.

Occupants of the boat should never stand, sit or jump from the tower. Nothing but MasterCraft-approved towing should be attempted. (See *Boating Safety* section of this Owner's Manual.)

Boat owners are strongly urged to purchase tower accessories only through an authorized MasterCraft dealer. MasterCraft has carefully determined the maximum amount of accessories and total weight that the tower can safely hold. Ignoring this information could result in injury to the boat operator and/or passengers.

⚠ WARNING

MasterCraft has determined that for the tower utilized on the current models, the total weight of all accessories mounted on the tower should never exceed 85 pounds, regardless of whether the accessories are MasterCraft-approved and supplied or have come from an aftermarket supplier. Exceeding this restriction can result in tower failure, which could result in serious injury or death to the boat operator and/or passengers.

Many boats are equipped with the ZFT5P tower. To properly operate the tower, follow these instructions:

1. **Always start the tower in the lowest position.**
2. **Press the switch UP momentarily to move the tower to mid-point. The tower will advance slowly to the position. After the tower reaches this position, the control box will go into stand-by mode.**

NOTE: Whenever raising or lowering the tower, pay attention to the surroundings. Ensure that people and objects are never in the way. Failure to do so could result in injury or damage that is not covered under warranty.

⚠ CAUTION

Always ensure that there are no people nor objects in the way when raising and lowering the tower. Individuals and their limbs may be subject to injury if caught in the path of the tower, as well as potential damage to the boat, which is not covered under warranty.

3. **From mid-point, the tower may be raised or lowered. By pressing the switch UP momentarily, it will move to the top position. By pressing the switch DOWN momentarily, it will move to the lowest position. After the tower reaches the top or lowest position, the control box will go into stand-by mode.**
4. **At any time, the tower can also be stopped by pressing the UP or DOWN switch momentarily. The tower will remember the position and you may start it UP or DOWN again by momentarily pressing the switch.**
5. **If at any time the tower stops in an unusual position, pressing the DOWN switch momentarily will bring the tower to the lowest position and reset the control box. Normal operations will then resume.**

In some instances, depending upon where the tower has stopped, it may be necessary to press the DOWN switch a second time to reset the control box and the tower at the lowest position.

NOTE: The tower will not move when the engine is at 800 RPM or higher.

Towing, wakeboarding and other allowable activities involving the tower should be undertaken with the tower FULL UP or at mid-point positions. The mid-point setting also allows the boat to run with the tower and optional Bimini tops in a lower, more aerodynamic position. For stability and to avoid damage to the Bimini, it should be stowed prior to towing the boat on a trailer.

Convenience Controls

12-Volt Receptacle

(All Models; Some May Have Multiple Receptacles)

MasterCraft boats have one (1) or more 12-volt receptacles. Examine your boat to determine whether there are additional outlets. Prior to plugging any accessory into a 12-volt receptacle, ensure that the device is designed for use when connected to a 12-volt receptacle and will not be damaged by the connection to the receptacle.

Aft Light Switch

(Models Equipped with Optional Tower Lights)

The location of the aft light switch (where equipped) will vary by model and should be located by the operator. In some instances, there may be two (2) switches. In all instances, the lights operate by using two-position switches, one position for ON and the other for OFF.

AM/FM Stereo, CD Player, Remote Control, iPod and MP3 Player Connections

(Stereo Standard Installation on X-Series; Optional on All Other Models; Remote Control on Armrest, iPod and MP3 Player Connections with Stereo Installation)

Boats may be equipped with a range of entertainment opportunities from radios and CD players to connections for personal devices. ALL radio and CD players will be located within the glovebox of the boat. Remotes may be in the armrest or on the transom.

The iPod interface option features a cable located inside the glovebox that allows the unit to simply be plugged in and run off the boat's electrical system. An optional plug-in location for MP3 players is available. Be aware that all such devices are a drain on the boat's battery and electrical system. Care should be taken to avoid excessive usage of such devices and by responding to any alarms that sound so that the boat's battery(ies) does not become fully discharged.

Another option is a wireless stereo remote that will float if accidentally dropped overboard. The remote can also double as a key fob for a limited number of keys.

The stereo and components come with a separate manual explaining operation of the devices. Please review and become familiar with the equipment.

Courtesy Lights Switch

(All Models)

This switch is a two-position switch that activates the courtesy lights within the boat. Turning the switch upwards will turn the lights ON, and turning it downwards will turn the lights OFF.

Note that on boats equipped with the optional underwater lights (transom below the water line), this same switch operates those lights. **Also note that the underwater lights should never be operated unless the boat is in the water. Even though these are L.E.D. lights, they generate some heat and require the cooling effect of the water to avoid premature burn-out of the bulb.**

Display Selector Switch

(ProStar 190, ProStar 197, X-7)

On the models equipped with the Multi-Function gauge, this switch allows the operator to toggle between functions.

Engine Hatch Switch

(280/X-80)

Where equipped, an engine hatch cover switch allows the cover to open and close electronically. The three-position switch is pressed up to open and down to close the hatch.

WARNING

The engine box serves as a machinery guard. The engine must be OFF whenever the box is open. Clothing or body parts can get caught in moving parts, causing death or serious injury. Keep away from moving parts!

Heater Switch

(Optional Installation for All Models)

Among the accessory options available for your boat is a heater function. The heater's three-position switch is turned up for ON (LOW), or turned down for ON (HIGH). The center position is OFF. Warmed air from an electrically powered heater box will be blown from vents within the boat deck.

Instrument Panel Gauge Backlighting Switch

(All models equipped with the Video Display Gauge System)

A three-position switch allows the operator to change the instrument panel backlighting for the gauges. Pressing the top of the switch will cause the lights to brighten, and pressing down will dim the lights.

Refrigerator Switch

(28o, X-8o)

This switch will run the refrigerator when turned ON. The refrigerator runs off the boat's electrical and battery system. Therefore, care should be given to ensure that the battery is not drained to such an extent that the voltmeter alarm sounds.

Seat Heat Switches

(Optional All Models for Driver's Seat; Certain Models for Observer's Seat)

A two-position switch allows heat to be turned ON for the driver's seat. In some models, an optional observer seat heat switch is available and will be found on the deck below the observer seat cushion. Note that this switch will operate only when the ignition is in the ON position.

Shower and/or Slick Boot Switch

(Optional Installations on Most Models)

A single three-position switch mounted in an aft position storage area controls the optional shower and optional Slick Boot functions. The switch is marked for each. Turn the switch toward the Shower marking to turn ON the shower. Return to center for OFF. Turn to the other direction to turn ON the Slick Boot. Return to center for OFF. These instructions work whether the boat is equipped with one (1) or both of the options, but will not be found in boats that are not equipped with either option.

Sink Switch

(28o and X-8o)

On the face plate panel adjacent to the sink is a two-position switch. Turning the switch ON allows water to run through the faucet into the sink. The water comes from a freshwater tank that requires manual refilling when the water has run out. Be sure to turn OFF the switch after running water, and especially when the freshwater tank has run dry.

Tower Lights Switch

(Optional Installation for All Models)

The location of the tower lights switch (where equipped) varies by model and should be located by the operator. In some instances, there may be two (2) switches. In all instances, the lights operate by using two-position switches, one position for ON and the other for OFF.

Underwater Lights Switch

(All Models)

This switch is a two-position switch that activates the courtesy lights within the boat as well as the underwater lights (where equipped), simultaneously. Turning the switch upwards will turn the lights ON, and turning it downwards will turn the lights OFF.

Also note that the underwater lights should never be operated unless the boat is in the water. Even though these are L.E.D. lights, they generate some heat and require the cooling effect of the water to avoid premature burn-out of the bulb.

Wash Down Switch

(***Optional Installation for all V Series, X-Star, including Saltwater Series)***

A water tank option within available models can provide a fresh-water wash of the boat interior. The tank will be eight (8) or twenty-five (25) gallons capacity, depending on the boat model. The two-position switch is pressed up for ON and down for OFF.

Comfort and Convenience

MasterCraft offers significant standard and optional items to make the boating experience more enjoyable. Some of these items come with their own instructions and information from the original manufacturer. In those instances, such as with the stereo equipment, the manual is included with the boat. In other instances, some general information is provided in this section.

If, at any time, you are uncertain about the use or care of anything on the boat, never hesitate to contact your authorized MasterCraft dealer for additional information and guidance.

Anchor

Some models are equipped with anchors, and there will be a designated storage area or stowage location on the boat. Check with your dealer if you are uncertain about this area as it is important to keep the anchor stowed when it is not in use.

WARNING

Improperly stored anchors and/or anchor line that has been improperly re-wound, may create a hazardous situation. People onboard can trip on improperly stored materials, which can result in injury. Improperly stored materials can also move too freely during boat operation and make contact with individuals, again causing injury. Properly store all anchor and lines whether the boat is in operation or not, unless the anchor and line are in use.

CAUTION

The anchor has been provided to assist boaters in remaining in a chosen location. Note that use of the anchor system will not guarantee a properly anchored boat or that the boat will remain in a stationary position. Environmental, bottom conditions, current and tidal conditions must be taken into consideration when anchoring the boat. Only properly trained operators should set the anchor for this system. Establishing a secure anchorage requires practice. Damage to your boat may result due to improper anchoring techniques.

Canvas Covers

One of the most popular options for MasterCraft boats are the variety of canvas covers available. Speak with an authorized MasterCraft dealer for details about what is available for each model. MasterCraft strongly recommends having an authorized MasterCraft dealer perform the installation as snap installation can cause "crazing" (unwanted spider-web-like lines in the gel coat) if the installation is not done correctly.

On-going care of the canvas is required to keep the material in good condition for the life of the boat. See *Cleaning the Boat* section of this Owner's Manual for more information.

Note that towing with unapproved covers on the boat may result in damage to the gel coat. MasterCraft recommends the use of our towable cover only for towing. Other canvas and covers have been developed and are available only through authorized MasterCraft dealers for a variety of uses.

Coolers

On many models, a removable cooler is included, particularly on models that do not have cold plates or a refrigerator. As with any similar Igloo-type cooler, routine cleaning with warm soapy water is advised after each use. Check also whether anything from inside the cooler has been spilled or in some manner ended up in the storage area in which the cooler is kept. This should be cleaned up immediately to avoid mold, mildew, stains or other damage that is not covered under warranty.

Food items or anything that can create an odor should not be left in the cooler. Neither should anything that can leak be left in these units as they could potentially damage the cooler, and this type of damage is not covered under warranty.

Fire Suppression and Extinguishing

All MasterCraft V-drives are equipped with an automatic fire suppression system. The automatic system operates from sensors in the engine room and will automatically release a clean-agent, gaseous chemical that does not leave residue behind. In boats sold domestically, this is the FE-241 system; internationally, it is the FM-200 system.

It is also possible to activate the system manually on the FE-241 system only. Pull the pin with the red tag , and then pull the red fire handle to set the system in operation.

In case of an engine compartment fire, shut down the engine and blowers before manual discharge, or immediately following the automatic discharge. Boats are equipped with a discharge indication light at the instrument panel or on the video display gauge at the helm.

After the suppression system has been used, the fire extinguisher canister will be empty. The boat owner/operator should have the canister replaced as soon as practicable.

V-drive boats have also been specified to carry a hand-held 2.5 lb. monoammonium phosphate expellant (dry chemical) unit, which is rated Class A (trash, wood and paper), Class B (UL Approved) and Class C (energized electrical equipment). These units should be used in situations other than engine compartment fires.

All V-drives are specified for one (1) dry chemical, hand-held extinguisher. This is in addition to the suppression system in the engine compartment.

Hand-held units should be replaced or recharged as soon as possible after use. Chemical discharge should be cleaned from all surfaces as soon as possible and prior to running the boat again, unless operation is necessary to return to shore.

The boat should never be operated following a fire until after a determination has been made whether operation may result in another fire. If any danger of an additional fire exists, the boat should be towed to shore or dock rather than running the engine(s).

Consumers who choose to purchase fire control equipment from resources other than MasterCraft must follow the instructions and requirements as listed within the engine compartment regarding suitability for the compartment volume. These standards are established by the ABYC.

DANGER

Following the activation of the automatic fire suppression system or a hand-held fire extinguisher, a careful determination should be made as to whether the boat can safely be operated. If there is any doubt or concern whatsoever, the boat should be towed to shore and/or dock for service by an authorized MasterCraft dealer prior to operating again. Failure to follow these instructions could result in death or serious injury/illness.

Head

The following general information is provided for installed heads. See specific information provided by the manufacturer.

Preparing the head for use:

Step 1: With the seat lid closed, pull the flush handle to open the slide valve. Then push to close. This relieves air pressure that may be created in the lower holding tank due to changes in temperature or altitude.

Step 2: Remove the water cap and fill the upper tank until it reaches about 1 inch (25 mm) below the opening. Replace the cap.

Step 3: Pull the flush handle to open slide valve.

Step 4: Pour deodorant directly into the lower tank, then close the slide valve. Do NOT pour deodorant into the bowl with the slide valve closed.

Step 5: Stroke the air pump about 15 times or until air emits through the relief valve on the water cap. Do not over-pressurize the upper tank by covering the relief valve. Do not let the upper tank pressurize when it is disconnected from the lower tank.

In using the toilet:

Step 1: Before each use, with the seat lid closed, pull the flush handle to open the slide valve, then push to close. This relieves air pressure that may be created in the lower holding tank due to changes in temperature or altitude.

Step 2: Pull the flush handle to release waste in the lower tank.

Step 3: Push the flush button to rinse the bowl. Push the flush handle to close the slide valve.

To empty the holding tank:

Step 1: When the tank level indicator shows "FULL," or at the end of an outing, empty the lower tank.

Step 2: Pull up on the rear latch to separate the upper tank from the lower tank. Carry the lower tank to an authorized waste disposal area or a normal toilet. **(DO NOT DISPOSE WASTE IN ANY LOCATION, INCLUDING NAVIGABLE BODIES OF WATER, WHERE SUCH DISPOSAL IS ILLEGAL OR CREATES AN ENVIRONMENTAL HAZARD.)**

Step 3: Rotate the discharge spout away from the tank and open the vent on top of the holding tank. Empty the tank.

Step 4: If water is available, rinse the lower tank before reassembling the portable toilet.

The head is supplied with in-depth instructions, which will be found in the head and should be removed and read prior to the first use of the system. Store the instructions with this Owner's Manual and other important material regarding the boat.

Use only rapid-dissolve toilet paper with these head systems, and only deodorant specially formulated for this type of head system. See instructions for details. In the event that anything from the head's bowl or holding tank escapes, it should be cleaned as soon as practicable. Failure to clean any spillage may result in unpleasant odors, mildew, mold and damage to the deck or other areas of the boat. This is not covered under warranty.

See the *Storage & Winterization* section of this Owner's Manual for important information regarding the preparation of the head for storage.

Ladders

Some models are equipped with ladders, which may be located at the bow or under the swim platform aft. All ladders have stowable position and operational position. Be sure to stow ladders prior to operation of the boat. Undue pressure from the water while underway could potentially damage the ladder. When opening or closing the ladder, be careful not to pinch fingers or other skin as all ladders have some kind of catch to hold them in position and provide protection for people as they board.

Heater

All MasterCraft models offer a heater option. The heater's three-position switch is turned up for ON (LOW), or turned down for ON (HIGH). The center position is OFF. Warmed air from an electrically powered heater box will be blown from vents within the boat deck. In regular use, the heater should not require any routine maintenance. However, it is advisable to avoid placing items in front of the vents, particularly when the heater is in use. The heated air coming out could cause damage.

Never run the heater in a confined space, such as a garage or shop. Fumes from the engine can have deadly consequences. See also the *Common Sense Approach* section of this Owner's Manual regarding carbon monoxide danger.

DANGER

Carbon monoxide is emitted from the engine's exhaust system. Never run the engine without proper ventilation. Do not run the engine in a confined space or where fumes may be trapped.

Lighting

Some models may be equipped with incandescent bulbs in the head, storage areas or in some instances in the forward and aft-facing lights. These lights are replaceable as would be any incandescent light bulb.

Other lighting that is L.E.D. will require replacement along with the housing in which they are contained. This includes the underwater lights, courtesy lights and other auxiliary lighting. These lights will need to be replaced by an authorized MasterCraft dealer.

Also note that the underwater lights should never be operated unless the boat is in the water. Even though these are L.E.D. lights, they generate some heat and require the cooling effect of the water to avoid premature burnout of the bulb.

Refrigeration

Some models offer optional refrigeration. In the 280V and X-80 models, it is a refrigerator unit, which is free of CFCs, and instructions are provided by the manufacturer.

Note that the refrigerator functions off the boat's electrical system. Attention should be paid to the Voltmeter(s) to be certain that these systems do not over-drain the electrical system.

On the 280V and X-80 refrigerator unit note that it can be used in an ambient air temperature range of -4 degrees Fahrenheit (-20 Celsius) to 130 F (55 C), and a maximum of 90 percent air humidity in constant operation. The device can cool goods in a temperature range of 28 degrees F (-2 C) to 53 degrees F (12 C). It is equipped with a battery monitor that switches the compressor off and on again, protecting the battery and the compressor against damage.

The refrigerator is suitable for cooling food. If you wish to cool medicine, please check to determine whether the cooling capacity is sufficient for the medicine in question.

Food items or anything that can create an odor should not be left in the refrigerator or cold plate areas. Neither should anything that can leak be left in these units as they could potentially damage the units, and this type of damage is not covered under warranty. The condenser on the refrigerator should be kept free of dust, dirt and anything that inhibits its proper operation. The manufacturer also recommends leaving the drawer slightly open if it will not be used for a period of time. This helps prevent unpleasant odors from forming.

Refrigerator cleaning instructions have been provided by the manufacturer. Note that it should always be OFF, and should never be cleaned under flowing water or submerged in any kind of body of water, including, but not limited to, a sink. Do not use abrasive cleaning agents. If it is necessary to defrost the interior, never remove layers of ice with hard or sharp tools as they can damage the plastic of the vaporizer. Allow the unit to air defrost.

The refrigerator operates by opening the coolbox door and turning the thermostat knob clockwise. Shutting it off requires turning the thermostat knob counterclockwise.

Seat Heaters

For real comfort, some models offer a seat heater option, which will be for the driver's seat, and sometimes in the observer's seat. It is not offered for any other seating in the boat. Note that the ignition must be ON for the seat heater to work. The heater(s) operate by a switch on the control panel. If the switch is turned ON and the seat does not warm up, or appears to become too warm, turn the switch to OFF and seek assistance from your authorized MasterCraft dealer in remedying the issue.

Seating

Comfortable seating is a hallmark of MasterCraft. Not only does the seating enhance the overall boating experience but it also is the designated area for operators and passengers to be while the boat is underway.

WARNING

When boats are in motion, operators and passengers should always be seated on upholstered designated occupant seating. No other areas should be used during operation, including, but not limited to, the gunwales, towers, sun pads, engine boxes, or any area that is not clearly intended for seating while the boat is underway. People can become dislodged from locations that are not actual seating, which could result in injury during boat motion.

Some specialized optional seating adds more comfort. Convertible seats allow the seat back to be moved forward or back, changing the orientation. (Be sure that the seat back locking mechanism is securely engaged before using the seat back. Failure to engage the locking mechanism may allow unintended movement that could result in a person losing balance or even falling.)

The convertible seat back at the transom seating is intended to be used only when the boat is stationary and the engine is OFF. The seat back must be in the stowed position, never aft facing, when the engine is running or the boat is underway. Positioned aft facing, the seat back offers no security to persons seated at the back of the boat and they could slide off and into the water, with the possibility of making contact with the transom or swim platform, which could result in injury. Also, while the seat back is positioned to allow aft seating, individuals may be exposed to carbon monoxide if the engine is running.

Optional jump seats also have latches to hold them in place. Open the observer seat adjacent to the jump seat and note that there is a lock pin that should be inserted to hold the jump seat secure against the side deck of the observer seat. Failure to do this could allow the jump seat to move during boat operation, which could result in passenger injury.

DANGER

Carbon monoxide is a colorless, tasteless, odorless and poisonous gas that accumulates rapidly and can cause serious injury or death. Exposure to carbon monoxide can be fatal in a matter of minutes. Exposure to even low concentrations of carbon monoxide must not be ignored because the effects of exposure to carbon monoxide can build up and be just as lethal as high concentrations. Carbon monoxide from exhaust pipes of inboard or outboard engines may build up inside and outside the boat in areas near exhaust vents, particularly during slow-speed operations. STAY AWAY from these exhaust vent areas, which are located at the stern of the boat, and DO NOT swim or engage in any watersports or other activities in or near the stern area of the boat, including, without limitation, the swim platform and the rear sun deck, when the engine is in operation. Under no circumstances should the owner and/or operator allow persons to hold onto the swim platform while the engine is operating and the boat is in motion. These activities (sometimes known as "teak surfing" or "platform dragging," where the participant holds onto the swim platform and is pulled through the water, and/or "body surfs" immediately behind the boat) are extremely dangerous, highly likely to result in death or serious bodily injury, and are a misuse of this product.

CAUTION

Convertible seat backs should always be in the stowed position when the boat is underway. Anyone seated facing aft could become dislodged when the boat is underway, which could result in sliding off the seating and making contact with the transom or swim platform. Jump seats should be secured against the deck with a lock pin accessible under the observer seat to avoid dislodging passengers while the boat is underway. Convertible seat backing should always be secured prior to use. Care should be taken to avoid pinching fingers or other skin when sliding the backing.

Shower or Wash Down

Many models offer a shower or wash down option. The switches are marked for each and may also include the underwater lights, where equipped. The switches are operated as ON-OFF and should always be left in the OFF position when the system(s) is not in use. The instructions work whether the boat is equipped with one (1) or both of the options, but will not be found in boats that are not equipped with either option.

On V Series, the X-Star and the Saltwater Series a tank option within available models can provide a fresh-water wash of the boat interior. The tank will be eight (8), ten (10) or twenty-five (25) gallons capacity, depending on the boat model. The two-position switch is pressed up for ON and down for OFF.

Do not use the shower with the engine running.

DANGER

Carbon monoxide is emitted from the engine's exhaust system. Never run the engine without proper ventilation. Do not run the engine in a confined space or where fumes may be trapped.

Routine maintenance is not required beyond occasionally checking the lines and shower head to be certain these elements are not damaged in any fashion. Be certain to follow the *Storage & Winterization* section's instructions found elsewhere in this Owner's Manual.

Tables

If the cockpit table option was selected for the applicable models, the table can be removed and stored. In doing so, ensure that the table and leg are secure in a storage compartment. If they are left out on the deck of the boat, they may shift or move and cause injury. Stored away, they should also be situated so that the metal top and bottom of the leg cannot rub against the table top and cause scratches. This type of damage will not be covered under warranty.

See the *Cleaning the Boat* section of this Owner's Manual for information on cleaning the surfaces of all tables.

Stereo Equipment

All stereo equipment, whether standard or optional equipment, comes with extensive instruction material. Please refer to this material or to the manufacturer's website for details and guidance.

Preparation

MasterCraft BOATS

Using Care When Fueling

MasterCraft boats are equipped with a highly innovative fuel system. This system is designed to provide years of trouble-free service. Some of the latest innovations related to fuel handling safety are also incorporated into the fuel delivery system.

The fuel pump system in your boat was specifically designed for the marine environment and contains a number of added safety components that are unique to the marine environment. Because of the special nature of the design, there are no user-serviceable parts. Any parts in need of service or maintenance will need to be addressed by an authorized MasterCraft dealer. An authorized MasterCraft dealer is equipped with the special tools necessary to disassemble and service the fuel capsule and associated parts. Replacement parts must meet OEM requirements as specified by MasterCraft.

The fuel line in the boat's bilge area that goes from the tank to the engine is a special multi-layer armored line that is covered with a special material known as a fire sleeve. The fire sleeve affords protection to the fuel line in the unlikely event of a boat fire. The sleeve is colored orange for easy identification of the fuel line.

During refueling you should reasonably expect to not have any fuel spitback or wellback when using an automatic shut-off fuel pump nozzle. All land-based gas stations are required to use these; some marinas may not. Therefore, we recommend that you never leave the fuel fill unattended when gassing up.

A limited number of MasterCraft boat models are equipped with a different type of fuel fill cap from traditional caps. As shown below, these caps are hinged, and they snap open or closed to seal with an audible click. **This is important for the system on these boat to operate correctly.**

MasterCraft recommends daily inspection of the bilge for foreign materials and the possibility of gas or oil leakage detection. As part of your daily inspection, include a visual check of the orange fire-sleeved fuel line. If you see damage to the sleeve or line or in any way suspect damage or fuel leakage, **DO NOT START THE BOAT!** Immediately call an authorized MasterCraft servicing dealer and let him or her assess the situation. Even if the outing is canceled, leaking fuel can cause serious damage to the environment and may be a potentially hazardous situation for people and property in the area. Therefore, it is critical to attend to any indication that there is fuel line damage or fuel leakage as soon as possible.

DANGER

Gasoline is extremely flammable and highly explosive under certain conditions. Always stop the engine and never smoke or allow open flames or sparks within fifty (50) feet of the fueling area when fueling.

DANGER

Take care not to spill gasoline. If gasoline is spilled accidentally, wipe up all traces of it with dry rags immediately and dispose of properly on shore.

DANGER

Gasoline is explosive. If a gasoline odor is present or gasoline is visually observed in the bilge area during inspection, DO NOT START YOUR ENGINE! Remove the ignition key from the ignition switch and call an authorized MasterCraft dealer for service.

CAUTION

Allowing the fuel level in the fuel tank to fall below one-quarter of a tank full may affect the reliability of the fuel pump or result in damage to the fuel pump, which is not covered under warranty.

ILMOR MARINE Engines

What Type of Gasoline To Use

The ILMOR MV8 engine (5.7, 6.0 and 6.2L) requires a minimum of 87 octane fuel. The octane number is based on the pump octane number, which is (R + M)/2, where R is the research octane number and M is the motored octane number.

For better performance, 93 octane fuel is recommended.

Fuels other than specified will negatively alter performance, emissions and could damage the engine. Use of lower octane fuels will cause spark knock (pinging). Continued heavy spark knock can cause severe engine damage. The engines have knock detection systems that offer the best engine performance by controlling knock through precise ignition timing. The higher octane fuel will cause less knock for the ignition system to process and adjust for.

Poor quality or old fuels can cause problems such as loss of performance, rough idling, hard starting and hesitation. If the engine experiences any of these symptoms, first try another brand of gasoline and/or replace the old gasoline with fresh gasoline.

Many engine manufacturers believe the U.S. Environmental Protection Agency's (EPA's) detergent levels in gasolines do not provide sufficient deposit controls to allow for optimal engine performance. As a result, TOP TIER Detergent Gasoline standards were created to ensure gasolines have all the necessary additives and detergents to reduce the build-up of deposits in an engine. ILMOR recommends purchasing fuel from a supplier that confirms their fuel meets TOP TIER specifications. For a list of TOP TIER retailers, check www.toptiergas.com, and click on "Retailers."

CAUTION

Damage to the engine by use of low-quality gasoline or gasoline with an octane rating below the minimum level listed for ILMOR MV8 engines will void the warranty on the engine.

Using Oxygenated Fuels or Fuels with Alcohol

E-85 fuels are not to be used! Use of this fuel may cause engine performance to suffer and may damage vital fuel system components.

Fuel that is no more than 15 percent MTBE (methyl tertiary butyl ether) may be used in the MV8 engine. MTBE is an oxygenate and octane booster. MTBE is used in fuels to meet government mandates. However, because of environmental concerns MTBE is being phased out and replaced with ethanol or methanol.

Leaded fuels may NOT be used in the MV8 engine. Also DO NOT use E15 fuel.

Gasoline containing levels higher than 10 percent ethanol or methanol is NOT TO BE USED in the MV8 engine. This is primarily due to the fact that the alcohol in the fuel absorbs water. Water in the fuel can cause corrosion and extensive damage in the fuel system. If the presence of alcohol in the gasoline is unknown, frequent inspections of the fuel system are required.

When the Boat Is Not Used for a While

ILMOR recommends the use of Sta-Bil® fuel stabilizer if the boat consumes less than a tank of fuel every couple of weeks. Today's fuels are more susceptible to degradation, and the use of a quality stabilizer helps ensure fewer problems if the boat is used only on a limited basis.

If the boat has not been run for more than thirty (30) days and fuel remains in the tank—even stabilized fuel—the engine may run with reduced performance until the existing fuel has been used. The manufacturer will not pay for repairs to components that are damaged from poor quality fuel as this is not covered under the engine warranty.

CAUTION

Extended storage with fuel in the system can affect fuel stability and may require system inspection and fuel filter replacement when the boat returns to service.

Fuels Outside the United States and Canada

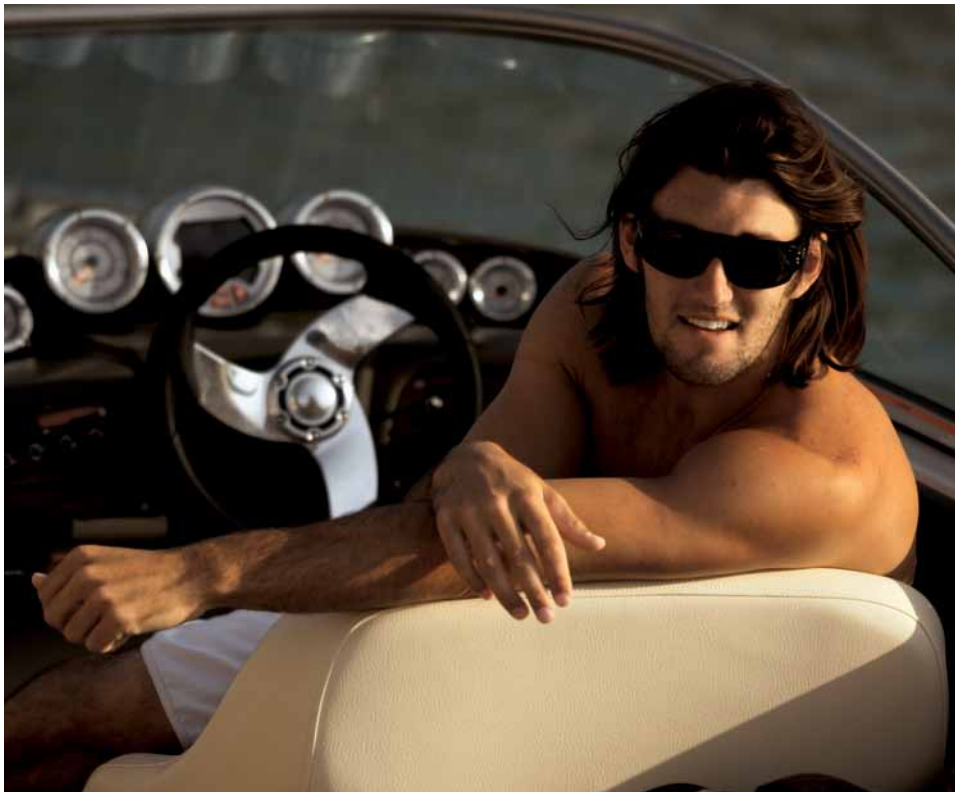
If the boat is operated outside the United States or Canada, it may be more difficult to obtain lead-free fuel. As the engine components are manufactured to function properly only with unleaded gasoline, it may be necessary to search for refined unleaded gasoline.

Safety Checks and Services

The following checks and services are essential to safe boating and must be performed. Get in the habit of performing these checks in the same order each outing so that it becomes routine.

WARNING

DO NOT launch or operate the boat if any problem is found during the Safety Check. A problem could lead to an accident during the outing, resulting in death or serious injury. Any and all problems should receive attention immediately. See your authorized MasterCraft dealer's service department for assistance.



Before Each Operation

These tasks are best accomplished before the boat is launched.

- Follow all engine and drive train pre-operation maintenance and safety checks as outlined in the engine owner's manual provided.
- Check the weather report, wind and water conditions.
- Check for recommended on-board tools and parts.
- Check that all drain plugs are installed properly, including bilge and rear drain.
- Check the propeller and shaft for damage.
- Check that there is an adequate supply of fuel.
- Check that the steering system operates properly.
- Check that required safety equipment is on board.
- Check that the windshield and extrusions do not show any damage.

CAUTION

When boating, avoid using the windshield as an aid for balance or getting out of a seat. This causes undue stress to the window frame and could damage it, which may not be covered under warranty.

- Check that the fire extinguisher is fully charged.
- Check that no fuel, oil or water is leaking or has leaked into the bilge compartment.
- Check all hoses and connections for leakage or damage.
- Check that everything is secure, tower and mirror knobs are tightened, all latches and brackets are secure, and anything that might move around in the cockpit during operation has been stowed. Even soft objects can cause injury when underway. Under normal operations, there will be some vibration, and this may loosen hardware over time.
- Check that all required **Scheduled Maintenance Checks and Services** *(see following sections)* were performed.

During Operation

- Check gauges frequently for operating conditions.
- Pay attention that controls operate smoothly.
- Note any excessive vibration.

After Operation

- Check for fluid leaks.
- In boats equipped with a ballast system, drain water from the ballast system before placing the boat on the trailer. If the boat has ballast-pumping assistance to remove water from the ballast system, note that the engine must be running at least 1500 RPM during the pumping process (for both fill and empty operations). This will necessitate draining water prior to ceasing operation of the boat and loading on the trailer. More information regarding ballast systems appears in various sections of this Owner's Manual.
- Check the fins (where equipped), propeller, rudder and shaft for damage after removing the boat from the water.

The first fifty (50) hours of operation are the most important for the boat. Proper break-in will ensure maximum performance and the longest possible power-train life. The break-in period allows moving parts within the engine and transmission to wear-in properly. All MasterCraft boats are lake-tested on the water before leaving the factory, but the break-in must continue for the first fifty (50) hours of your ownership.

CAUTION

To ensure proper break-in and lubrication, boat owners should not remove the factory break-in oil until after the initial ten (10) hours of operation and before twenty-five (25) hours. At that time, an oil change should be performed on the Ilmor engines by an authorized Ilmor/MasterCraft dealer.

Failure to follow the break-in procedure exactly as stated will void the engine warranty!

NOTE: Before operating the boat for the first time you must read the engine manufacturer's manual completely in addition to this Manual!

Please follow the break-in procedure carefully. Close attention to the following is very important:

- **Maintain the proper oil level.** Until the piston rings, cylinder and other working internal parts are thoroughly seated, oil consumption can be high and must be carefully watched. (This continues to be important after break-in, as well).
- **Pay close attention to the gauges.** It is important to stop the engine immediately if the gauges indicate a problem. Low oil pressure and overheating are serious issues and require immediate attention.
- **Abnormal vibration or noises.** These symptoms can precede trouble and should not be ignored. Occasionally, hardware may work loose, mountings may need to be tightened or the driveline may require attention.
- **Fuel, oil or water leaks.** Leaks can pose a serious safety threat. If one occurs, it is most likely to do so after a few hours of operation.
- **Vary the engine speed.** Never run the engine for more than three (3) minutes at any constant RPM during the break-in period. Doing this will assist in the proper break-in of rings and bearings.
- **Plane the boat quickly.** Operating the boat at low speeds places an excessive load on the engine. Plane quickly, then back down to a slower speed.

New Boat Break-In

First Hours of Operation

Each engine manufacturer has detailed and specific requirements for proper engine break-in. That information is found in the engine manual supplied, and must be followed exactly as indicated. Failure to do so could cause engine damage and/or failure that is not covered under warranty.

After Break-In

Once the break-in period is over, the boat may be operated continuously at any speed, but not beyond the maximum indicated in the engine manual.

The engines are equipped with rev-limiters which will cause a fluttering sound when reached. If the boat has the correct propeller set-up, operators should never reach the limiter, but if that happens, it is a signal that you should reduce the throttle and check with an authorized MasterCraft dealer to determine the cause.

Always remember that during normal operation you should allow the engine to warm up gradually. Be sure the engine is warm before accelerating. Pay careful attention to the gauges. Also, check the oil level frequently during the first fifty (50) hours of operation since the piston rings and cylinders require that much time to seat properly.

See the *Scheduled Maintenance Checks and Services* section for more details.

CAUTION

Failure to follow the engine oil recommendations listed in the engine manual can cause additional engine wear and increase the possibility of engine component failure. Damage to the engine due to incorrect oil usage can be costly to repair, and is not covered by the warranty!

NOTE: If you are operating this boat for the first time, you must follow the engine and drive train break-in procedures as described in the previous section and the engine manual. Failure to follow these procedures may result in serious damage and may void any warranties!

Starting and Basic Operation

Before Starting

Familiarize yourself with the controls and indicators used on this MasterCraft boat. Perform all Safety Checks and Services as described earlier. Also perform all Scheduled Maintenance Checks and Services.

Step 1: Lift the engine cover and inspect the bilge and engine compartment for any fluid/vapor leakage. MasterCraft recommends lifting the engine compartment cover for inspection before each use.
Step 2: Check the hull drain plugs. Make sure they are installed and secure.
Step 3: Operate the bilge blower for at least four (4) minutes. Leave the bilge blower ON through the starting process and until the boat has planed.

DANGER

To prevent a possible explosion, operate the blower for at least four (4) minutes before starting the engine and always when at idle or slow-running speed. Explosive gasoline and/or battery fumes may be present in the engine compartment. Failure to do so may result in serious injury or death!

DANGER

Before starting the engine, open the engine compartment and check for gasoline fumes, fuel and oil leaks or the presence of fuel or oil in the bilge.

NOTE: Always start the engine with the control lever in the neutral position or with the shift disengaged. Your boat is equipped with a neutral-start safety switch that will not allow the engine to be started when in gear.

Starting the Engine

Step 1: Attach the emergency engine safety switch tether (lanyard) to an article of your clothing and to the switch.
Step 2: For normal starting, leave the throttle lever in neutral. The electronic controls will meter the correct fuel and air automatically.

To start a ProStar 190, 197, X-7 or X-1, following these steps:
Insert the key in the ignition key slot. The key will be in one of four (4) positions:

- OFF
- Accessory (including running the stereo without the engine running)
- ON (engine is running)
- Start (turn the key to engage the engine starter, then release to allow the key to automatically return to the ON position)

Never leave the ignition switch in the ON position without the engine running, as this will cause the battery to discharge.

All other models will have a removable ignition key. Its purpose is for safety and security. The key should be inserted prior to starting an outing, and removed at the conclusion. This is intended to prevent theft or unapproved use of the boat.

The process for starting the boat is:

- Insert the key and turn. This turns ON the electrical system and prompts the battery(ies) to provide power.
- Momentarily press the ENGINE START-STOP button immediately above the key.

Note: While the engine is warming up, check to see that all lights and gauges operate properly. Check that the steering system operates freely. There should be no apparent leaks under pressure. Re-engage the control lever after warm-up by returning the lever to neutral and pushing the throttle button back into the engage position.

**Below left: ignition for ProStar 190, 197, X-7, X-1.
Below right: ignition for all other models.**

Shifting Gears

When shifting gears, always move the control lever smoothly and quickly into gear. Do not hesitate. Slow gear engagement could damage the shifting mechanism in the transmission.

NOTE: When shifting from forward to reverse or reverse to forward, be sure to stop the control lever in the neutral position and allow the engine to fall between 600-800 RPM before completing the shift.

With the exception of the 280V/ X-80, a one-hand, single-lever control operates as both a gear shifter and a throttle. The lever automatically locks in the neutral position (straight up and down) for safety. The lever can be moved from neutral only by raising the lifter under the ball knob. Shifting is accomplished by moving the lever forward or backward. Center (straight up) is neutral. Moving the lever forward engages the running gear; moving it back from center puts the drive train into reverse.

Never attempt to shift without the engine running!

During regular warm-up of the engine, it is possible to temporarily increase the engine RPMs without moving the boat. To accomplish this, push in the button located at the bottom of the shift/throttle lever with one hand and pull up the "umbrella" (aluminum surround below the top of the knob). Move the lever to desired position and then simultaneously release the button and umbrella. The engine will run with increased RPMs and can be increased or decreased by moving the lever. Returning the handle to the neutral position (as shown in illustration above) will bring the system back to neutral and reduce the engine RPMs to pre-set levels.

This function should be done sparingly. Over-revving the engine for any extended period can cause undue wear and tear on the engine. Avoid advancing to wide-open-throttle and holding the RPMs at that level.

In the 280V and X-80 the boat is equipped with a four-lever control. The port side lever closest to the driver is the port engine shifter, which allows the boat to move forward when shifted forward, and backward when shifted aft. The next lever is the starboard engine shifter and performs the same function. If both engines are running and the boat is moving, the shifters should be shifted together and in the same direction.

The next middle lever is the port engine throttle, which allows the boat to feed fuel into the engine and operate in motion. Pushing forward on it will signal the system that fuel should be sent to the port engine. The engines can be run at different levels of throttle. **However, it requires more practice and skill in order to avoid potential damage to the boat. See Engine Synchronizing Switch in this section of the Owner's Manual for more details.**

Underway

If the oil pressure gauge indicates low or no oil pressure, immediately stop the boat as outlined below and check the oil level. If the temperature gauge indicates overheating, stop the boat when it is safe to do so as outlined below and check the raw water system for blockage. DO NOT operate the boat until the cause for the warning has been found and corrected.

CAUTION

Continued operation after the warning light has illuminated may cause severe engine damage. This will void your warranty.

Stopping

Step 1: Slowly bring the control lever to the neutral position. If the boat has been driven for a long period of time or at high speed, allow the engine a 2-3 minute cool-down period at low idle (600-800 RPM).

Step 2: Turn the ignition key to the OFF position (ProStar 190, 197, X-7, X-1) to stop the engine or press the ENGINE START-STOP button (all other models).

Step 3: If any problems were encountered during operation, have the boat inspected by an authorized MasterCraft dealer. Request any necessary repairs before resuming operation of the boat.

Step 4: At the conclusion of the outing, turn the key off and remove from the key slot. Doing so will ensure that you have turned OFF the electrical system, and prevent others from starting or running the boat.

Operational Hints

MasterCraft urges all who will be operating the boat to seek certified instruction from the local boating authorities. This section is designed to present the most basic operational principles. It is NOT intended to cover all conditions encountered during operation. Therefore, the principles presented in this Owner's Manual are limited to the facts related directly to the operation of the boat, while the responsibility for the proper application of these principles belongs with the boat owner and/or operator.

WARNING

Adding additional aftermarket ballast to a MasterCraft boat is not recommended, and can result in impaired visibility, diminished handling characteristics and instability when operating your boat, and may result in potential structural and/or engine damage to the boat, which damage will not be covered by your warranty.

Loading

Never overload the boat. The maximum weight capacity as listed on the certification plate includes all items added to the boat (including persons and gear). Proper distribution of weight is critical to boat performance. Allocate the load as evenly as possible.
The maximum weight capacity includes filled, factory-installed ballast tanks and/or ballast bags, added by the customer.

The maximum weight capacity is calculated with full factory installed fuel and ballast tanks. The weight of occupants, gear and water in any ballast bags added by the customer reduces the capacity of the boat. Failure to adhere to the total maximum capacity may result in too much strain on the drive train or may sink the boat. This is not covered under warranty! See the *Common Sense Approach* section of this Owner's Manual regarding weight.

DANGER

Information regarding the maximum number of people and/or additional weight to the boat is included in the Guide to Individual Models section of this Manual. It is the boat operator's responsibility to ensure that the boat is never overloaded. Too much additional weight may cause the boat to overturn or sink, which can result in serious bodily injury or death.

Emergencies

Know how to use and spot distress signals, and to offer assistance if possible. Remember, you may need assistance some day.

Courtesy

Always respect the rights of others on the water. Keep wide when passing, slow down in crowded areas, be alert and be aware of your wake and wash.

First Time Operation

When taking to the water for the first time, you must keep in mind a few general guidelines:

- **Practice makes perfect!** Start in calm water with no wind or current and plenty of room until you get the feel for the boat and its controls.
- **Proceed slowly!** Give yourself time to think, react and maneuver.
- **Recognize outside forces!** Check the wind direction and velocity, as well as water currents and waves.
- **Have a crew on hand!** Have friends or family ready with fenders, lines and a boat hook to assist you when docking, as well as launching and loading.
- **Remember that a boat is not an automobile!** Boats cannot be maneuvered and stopped like a car. Boats steer from the stern (rear) and have no brakes.

Basic Maneuvering

Steering response is dependent upon three (3) factors: rudder position, motion and throttle. While high-speed maneuvering is relatively easy and takes little practice, slow-speed maneuvering is far more difficult and requires time and practice to master.

With both steering and propulsion at the rear of the boat, the initiation of a turn pushes the stern of the boat away from the direction of the turn. The stern follows a larger turning circle than the bow. This is especially important to remember when making maneuvers within close quarters.

While the effects of unequal propeller thrust (torque steering), wind, and current may not always be present, a practiced driver will use them to his/her advantage.

Unequal thrust is a phenomenon shared by all single-engine, propeller-driven boats. With the rudder in the straight-ahead position, a counterclockwise rotation propeller tends to cause the boat to drive to port when going forward, and to starboard when going backward.

At high speed, there is compensation for this effect, and it is virtually non-existent. But, at slow speed—and especially during backing—the effect can be very pronounced. This is the main reason that most experienced drivers approach with the dock to the starboard of the boat.

Stopping—or checking headway—is a technique that must be mastered. With no brakes, reverse must be used to stop the boat. The momentum of the boat will vary according to the load. Make it a practice to slow to no-wake speed before shifting into reverse.

When practicing maneuvering techniques, always do so in open water that is free of traffic. Adequate practice may make the difference between a pleasurable boating experience or a potentially damaging (at the very least, embarrassing) one.

High Speed Operation

MasterCraft boats are designed to be a high-performance boat. Professional drivers with advanced operating skills perform high-speed maneuvers and turns on-a-dime. DO NOT attempt to duplicate or simulate these feats. Paid, professional drivers log thousands of hours on the water and carefully choreograph every move. Plans are made in advance in the event the routine must be aborted. Maneuvers of this nature could cause serious injury or death, as well as damage to your MasterCraft boat that will not be covered under warranty.

DANGER

Boat operators should never attempt to duplicate operational skills of professional drivers. When such maneuvers fail, it can result in serious injury or death.

For the best engine performance and longevity, the wide-open-throttle (WOT) engine operation must be near the top of, but within, the specified WOT operating range. To adjust the WOT operating range, select a propeller with the proper diameter and pitch. The propeller supplied on the boat was chosen for best all-around performance under average operating conditions.

Load, weather, altitude and boat condition all affect WOT engine operation. If the boat is used for several different applications such as wakeboarding, barefooting and cruising, it may be necessary to have two (2) or more propellers of differing size and pitch to allow the engine to operate in the WOT range for each application.

Propping the boat should be done after the boat is loaded in the manner in which it would normally be loaded for each application. For example, in propping the boat for wakeboarding, fill the ballast tanks and add the people and gear that normally would be expected in the boat. Take the boat out and after warm-up, run it at wide-open-throttle and note the maximum RPM. EFI engines are equipped with RPM limiters to prevent over-revving. Take note if the RPM limiter is activated.

If the WOT RPM is higher than the maximum RPM in your engine's WOT operating range, the boat is under-propped. Installing a higher-pitched propeller will reduce the WOT RPMs. An engine that is over-revving may quickly experience catastrophic damage, which will not be covered under warranty.

If the WOT RPM is lower than the minimum RPM in your engine's WOT operating range, the boat is over-propped. Installing a lower-pitched propeller will increase WOT RPMs.

An engine that is under-revving is "lugging." This places a tremendous load on the pistons, crankshaft and bearings and can cause detonation, piston seizure and other engine damage, which will not be covered under warranty.

CAUTION

Engines should always be operated within engine manufacturer guidelines. Failure to do so may cause significant damage to the engine and drive train and is not covered under warranty!

Elevation and weather also have a very noticeable effect on the wide-open-throttle power of an engine. Since oxygen gets thinner as elevation increases, the engine begins to starve for air. Humidity, barometric pressure and temperature have a noticeable effect on the density of air since heat and humidity thin the air.

This phenomenon can become particularly apparent when an engine is propped for use on a cool, dry day in spring and then is operated on a hot, humid day in summer, and does not have the same performance. Although some performance can be regained by dropping to a lower-pitch propeller, the basic condition still exists. The propeller is too large in diameter for the reduced power output. An experienced marine dealer can determine how much diameter to remove from a lower-pitch propeller for specific high-elevation locations.

MasterCraft's engine manufacturers suggest that consumers consult with the dealer from whom the boat was purchased regarding the best propeller for the application in which the boat will primarily be run. However, be aware that changing the propeller may void the warranty. Again, working with an authorized MasterCraft dealer is your best bet to ensure excellent performance.

Unusual Operating Conditions

If the body of water is unknown, talk to local boaters about the type of obstacles that may be encountered beneath the water's surface. Rocks, tree stumps and sandbars are all dangerous and damaging. Be especially wary of rivers and man-made lakes. Rapidly changing conditions can cause daily changes in underwater hazards.

Stay well clear of floating debris. What looks to be a small branch in the water may well turn out to be an entire tree.

When traveling through weedy areas, keep an eye on the engine temperature gauge. Weeds caught up and blocking the water flow through the raw water intake or transmission cooler will cause trouble. Also, after leaving the weedy area, shift to neutral for a few seconds and then to reverse for a few seconds to unwind any weeds that may have wrapped around the propeller.

Docking and Tie-Up

Approach the dock slowly, with the starboard side of the boat if possible. The natural tendency to torque steer with the rotation of the propeller at slow speeds makes docking easier on that side. Also, use wind and current to your advantage when docking.

Before tying up the boat, be sure to use enough dock bumpers to protect the boat from damage. If possible, tie-up with the bow toward the waves. Use good quality double-braided nylon line. Tie-up only to the cleats or tie-down eyes. Never use the handrails or ski pylon.

If the boat is to be moored for a long period of time, use chafing protectors to protect the gel coat finish. Leave a little slack in the lines, allowing for some wave movement or tidal action where applicable.

If the boat is to be kept in or near water for the season, consider the purchase of a boat lift and bottom paint for the hull. These lifts prevent the build-up of marine growth on the hull as well as protecting the boat from damage typical of on-water storage, such as blistering. Make sure the boat lift supports the hull correctly. See the next section, *Lifting the Boat.*

NOTE: On boats that are equipped with the engine synchronizing switch (models with two engines), this switch should be disengaged during docking or when loading and unloading the boat from a trailer. These maneuvers require a sensitive touch and control that may not be realized when the switch is engaged.

Care and Maintenance

MasterCraft BOATS

Lifting the Boat

When the boat is hoisted from the water, proper use of the stern eyes or a sling system is required for all MasterCraft models. Though stern eyes are designed to lift a boat from the water, care must be taken to ensure you do not damage your boat. A spreader bar used at the stern, will help ensure that the load at the stern eyes is vertical. A strap placed between stern eyes, and then lifted from the mid-point, is not the recommended method, and will put substantial additional stress on the stern eye mounting location.

CAUTION

DO NOT use the ski pylon or any portion of any tower for lifting. They are NOT designed to be used as a central lifting point. Also, DO NOT use the stern ski tow as a lifting ring. The deck may be damaged. See the Storage Cradle sub-section of this section. Also never lift a boat with water in the bilge or containing a water-filled device such as a ballast system or sack. The extra stress will put an excessive load on the hull and lifting equipment that may seriously damage the boat. Such damage may not be covered by the warranty.

Using Lifting Eyes

An overhead hoist with an appropriate rating capacity should be used to lift your boat. Cables should be properly rated for each model. Each cable should be rated at or above the full weight of the model to be lifted. *When lifting, keep the bow slightly higher than the stern to prevent any possibility of water running into the engine exhaust manifold.*

Using Lifting Slings

An overhead hoist with an appropriate racing capacity should be used. Slings must be six (6) inches wide by twenty (20) feet long and each sling should have a minimum capacity rating that is equivalent to the weight of the model that is to be lifted. Use an eight-foot spreader bar on each sling to prevent damaging side pressure to the deck or gunwale molding.

CAUTION

Lifting slings must never contact shafts, struts or hardware protruding from the hull. Damage may result that would void the warranty.

CAUTION

When the boat is out of the water, it is important to support the hull correctly to avoid any hull damage. Such damage may void the warranty.

Storage Cradle

If a storage cradle is used, the hull must be properly supported to prevent load damage. This can occur with as little as fifteen (15) pounds per square inch of pressure. **DO NOT** support the boat by resting the hull on the keel (the central fore-and-aft structural member in the bottom of the boat's hull, extending from the bow to the stern). Vertical supports must extend from the chine (the angular intersection of the bottom and sides of the boat) to the keel with no gaps between the hull and cradle supports. A total support area of at least 250 square inches is required for proper support of boats under 25' and 500 square inches for boats over 25'. Protect all items extending from the hull (i.e., the rudder, propeller, fins, etc.) to prevent them from resting on the cradle or the ground. **DO NOT** apply any load stress to the propeller, shaft, rudder, swim platform, water intake grate or other protruding items.

NOTE: DAMAGE DUE TO CORROSION IS NOT COVERED UNDER WARRANTY!

Corrosion Prevention

Galvanic Corrosion

Galvanic corrosion (electrolysis) to the boat is the decomposition of metal due to the effects of electrolytic action. When two (2) dissimilar metals are immersed in a conductive fluid (e.g., salt water), an electric current is produced, much like the action of a battery. As the current flows, it takes with it tiny bits of the softer metal. If left unchecked, severe damage may occur over time.

If the boat is operated in salt, polluted or brackish waters, even temporarily, the boat should be equipped with a transom-mounted zinc anode to prevent damage to those metal parts coming in contact with the water.

The zinc is, by design, self-sacrificing. It is slowly eroded away by electrolytic action and requires periodic inspection for deterioration. When the zinc has eroded to approximately one-half (1/2) of its original size, it must be replaced to continue protection, or damage to other metal parts may result.

MasterCraft Saltwater Series boats come equipped with the zinc anode. For fresh water boats that may be operated in polluted or brackish water, an authorized MasterCraft dealer can provide guidance in securing and installing a zinc anode for protection.

Salt Water Corrosion

The boat has been designed for operation in fresh water unless it is a model in the MasterCraft Saltwater Series. If operating a fresh-water model temporarily in salt, polluted or brackish water, thoroughly flush the boat with fresh water as soon as possible afterward. The entire engine cooling system should be flushed with fresh water for at least ten (10) minutes after each use in such waters.

Boats operated continuously in salt water should be equipped with the closed cooling system to preserve engine life.

Marine Growth

If accelerated marine growth is a problem in the area in which the boat will generally be operated, an anti-fouling bottom paint may be necessary to slow growth while protecting the gel coat.

Before selecting a bottom paint, talk with other boaters and an authorized MasterCraft dealer's service department to determine the product that works best in the area. Many local variables may also affect the selection of paint. Be sure to follow the paint manufacturer's directions exactly.

⚠ CAUTION

Be sure all fasteners used are approved and rated for marine use. Most fasteners used on MasterCraft boats are stainless steel or specially coated to resist corrosion.

⚠ WARNING

Use of improper parts may cause component or engine failure. Such failure may result in death or serious injury!

Stainless Steel and Chrome

Stainless steel and chrome-plated parts are not totally resistant to corrosion. Occasional cleaning and polishing with a marine chrome-and-stainless polish will maintain and extend the life of these parts. In salt water areas, it is imperative that you thoroughly rinse all hardware with fresh water and apply a light coating of protective oil to enhance the appearance after each use.

CAUTION

Exposure to salt water will cause corrosion leading to significant damage to stainless steel and chrome parts. Failure to thoroughly rinse salt water from all hardware, and to apply protective oil after each exposure to salt water, will accelerate the corrosion of hardware and will void your warranty.

Periodic cleaning is the best way to keep your boat looking like new. Regular washing and waxing keep dirt and build-up from deteriorating the finish. If you keep your boat in showroom-new condition then your personal satisfaction will be higher and the resale value of your boat will be greater.

The boat is made of fiberglass-reinforced plastic resin material that is easy to clean and care for. Several layers of resin material are chemically bonded together to form the hull. The smooth outside surface of the hull is a layer of gel coat resin. The gel coat is a solid color that is only a few millimeters thick.

Beneath the gel coat surface is a series of layers of chemical resin, fiberglass mat and woven roving. It is these layers that give the boat its strength and maintain the hull shape. The boat bottom also uses special core-mat material for its strength-to-weight and superior marine performance.

Even though MasterCraft has carefully crafted boats from resilient materials, it is still the responsibility of the boat owner to perform regular and routine cleaning maintenance to ensure that the boat exterior, interior and components retain both their appearance and strength.

Cleaning the Boat

Hull

When washing the boat, use a mild detergent, such as Dawn or Ivory dish soap, or similar commercially-produced detergent, and warm water solution. **DO NOT** use abrasive cleaners, solvents, ammonia or chlorine, as these will damage the gel coat surface. Under extreme conditions, special cleaners may be used to remove marine growth from the hull. (See an authorized MasterCraft service department for further instructions.)

Carpet

Occasionally washing with mild detergent and warm water or household carpet cleaners will help keep the carpet clean. Thoroughly hose the detergent out of the carpet and into the bilge. (This is a good time to clean the bilge also.) Allow the boat to remain uncovered to air dry for several days to prevent any mildew or odor caused by moisture.

Teak Wood

Full teak platforms:

If shoes are worn when walking on the teak, they should be proper boating shoes. Black-soled shoes are likely to scuff the surface, resulting in marks that may be difficult to remove or even leave permanent marks that are not covered under warranty.

Regular cleaning and oiling of teak wood will maintain its original appearance. Unprotected wood will turn gray and could split or separate. If this happens it may void the warranty.

New teak platforms have been sealed and finished with an oil-based, wood preservative by the manufacturer. Platforms will keep the new look and last for many, many years if properly maintained. For best results re-oil the platform and allow it to dry before the first use. If the boat spends a lot of long weekends on the lake with the swim platform in the water or if the platform sits uncovered in the sun, it should be oiled one or two times a month during the first season; then as needed after that. The platform should be covered when not in use or when stored for the winter.

Many products such as boiled linseed oil, tongue oil, teak oil and other outdoor wood preservatives can be found at marinas, paint stores or home improvement stores. Some oils such as linseed oil should be thinned with a thinner like mineral spirits before use. (70 percent oil-30 percent thinner.)

When oiling a platform, apply a coat of oil with a wet cloth, work into the seams, end grain and edges. Allow the oil to set approximately 15 minutes and then wipe off the excess oil with a dry cloth. ***Do not let the oil dry on the platform in the sun.*** Excess oil should be removed with a dry cloth.

Teak inlay platforms:

Wear proper boating shoes. Avoid black-soled shoes as they are likely to scuff the surface, resulting in marks that may be difficult to remove or even leave permanent marks that are not covered under warranty.

The teak inlay platforms feature a specially developed synthetic surface that is durable and long-lasting, provided proper care is given to the inlay surface. This maintenance is different from the full teak platform care.

For the inlay, note:

- Inlays do not require oiling or special sealants.
- Inlays can be maintained by pressure washing.
- Do NOT place hot metals of any kind on the inlay surface. This will create a permanent mark.
- Do NOT use acetone to clean the inlay (or fiberglass surround).
- Do NOT use oil, bleach, varnish, paint or lacquer.
- Do NOT use a power sander.

Most spills will brush away with soap and water, using a bristled brush and boat deck cleaner. After cleaning, rinse with water and allow to air dry. Sanded areas will appear lighter after sanding and will blend in with the surrounding areas within a day or two. If a chemical stain is allowed to dry and soap and water do not remove it, the surface can be lightly sanded with 60-grit sandpaper. Sand the stain in the same direction as the black caulk seams. Sanded areas will appear lighter after sanding and will blend in with the surrounding areas within a day or two.

If bleach is used on areas surrounding the teak inlay deck, first spray the surface with water to dilute any bleach that may run onto the deck surface. After cleaning the other area(s) with bleach, re-spray both the bleached surfaces and the teak surfaces to rinse away any bleach residue. ***Note that bleach should never be applied directly to the teak!***

Fiberglass Swim Platform

The fiberglass swim platform requires the same kind of regular—and gentle—cleaning that the rest of the boat needs. After cleaning off any environmental debris, wash with mild soap and warm water. Avoid the use of ArmorAll or similar types of rubber-shine products as these will speed the decay of the rubber rather than protecting it.

Windshield

In cleaning tempered glass windshields, the normal glass cleaners (from spray bottles or aerosol cans) work best. While the glass is very strong, it can be scratched if anything abrasive is used. Harsh chemicals or solvents should be avoided because they may affect the vinyl gaskets or powder-coated finish on the extrusions.

More care should be taken when cleaning the clear Eisenglass curtains, which are an option on some boat models. Eisenglass curtains are usually made with clear vinyl sheeting, which is much softer and more prone to scratching and hazing than the windshield glass is, only soft cloths and mild detergents should be used.

Canvas Covers

The material used in constructing Bimini tops and boat covers is made from 100 percent solution-dyed polyester fiber with a urethane coating to provide excellent water repellency and mildew resistance. This design allows the material to be easily maintained. By following a few simple care and cleaning steps, the fabric will continue to look good and maintain its fine qualities for seasons to come.

Important Background Information

Because the fabrics are woven, they are breathable. It's also important to know that these fabrics are treated with a fluorocarbon finish, which enhances water repellency. This finish requires replenishment after vigorous cleaning.

Polyester fabric will not support the growth of mildew. Mold and mildew need something on which to grow and polyester fabric is not a desirable substance for such growth. Dirt or dust on the fabric, however, is a perfect source for mildew growth, which makes regular cleaning of the fabric important.

There is no set time for when the fabric should be cleaned, and the local environment has a great deal to do with determining cleaning frequency. Cleaning is required less frequently in a dry environment than in a humid one where heavy foliage exists.

The material has an applied finish that deters mold and mildew growth, but it does not make it mold-proof. Keeping the fabric free of dirt and foreign substances is important in deterring mold growth.

Cleaning

One of the best ways to keep the material looking fresh and new, and to delay the need for deep or vigorous cleaning, is to hose off fabrics with clear water on at least a monthly basis with clear water. This practice will help prevent dirt from becoming deeply embedded in the fabric, and it will eliminate the need for more frequent and more vigorous cleanings.

In most environments, a thorough cleaning will be needed approximately every two (2) years.

The fabric can be cleaned while still in the boat. When cleaning, it is important to observe the following:

- Always use a natural soap—never detergent.
- Water should be cold to lukewarm, but never more than 100 degrees.
- Air dry only. Never apply heat to the fabric.

Begin by brushing off loose dirt, and then hose down the material. Prepare a cleaning mixture of water and a mild, natural soap that is free of detergents. Use a soft-bristle brush to clean, allowing the soap to soak in. Rinse thoroughly and allow the fabric to thoroughly air dry.

If stubborn stains persist, you can use a diluted chlorine bleach/soap mixture for spot cleaning of mildew, roof run-off and other similar stains. Please keep in mind that chlorine bleach will not change the color of the fabric, but chlorine bleach will eventually break down the fiber of any fabric. Therefore, this cleaning method should be used as infrequently as possible.

The cleaning mixture should be mixed as follows:

- Four ounces (one-half cup) of chlorine bleach.
- Two ounces (one-fourth cup) of natural soap.
- One gallon of water.

Clean with a soft-bristle brush and allow the mixture to soak no longer than twenty (20) minutes. Rinse thoroughly and allow to completely air dry. Repeat if necessary.

If the top or boat cover is suitable in size for a washing machine, these steps should be followed:

- Use only natural soaps—no detergent.
- Wash and rinse in cold water.
- Air dry. (Never put the fabric in a dryer.)

As part of the finishing process, the material has been treated with a fluorocarbon finish, which enhances water repellency. This finish is designed to last for several years, but it must be replenished after a thorough cleaning. Based on test results, the manufacturer recommends 303 High Tech Fabric Guard™ as the preferred re-treatment product.

After cleaning and air drying, apply 303 in a thin, even coat. When it has dried, apply a second thin, even coat. These two (2) light coatings are more effective in restoring fabric water resistance than a single heavy coating. Keep in mind that 303 High Tech Fabric Guard™ will work only as well as it is applied. This means that the fabric must be free of dirt and detergents or the Fabric Guard will wash away with the dirt particles.

Fabrics should be retreated after thorough cleaning or after five (5) years of use.

Enclosed Head

An option on some models is the enclosed, portable head. This convenience should be emptied on-shore within an acceptable holding tank, septic system or sewer. It should never be emptied within the boating body of water or on-shore, except in an approved receptacle!

The head should be cleaned after each outing. After thoroughly cleaning with a mild detergent, add a neutralizing chemical made especially for portable heads, such as that found in RV centers. The neutralizing chemical will help deal with potential odors that might otherwise be foul.

Slick Boot

The optional Slick Boot should periodically be dismantled, cleaned and the wand thoroughly rinsed. The Slick Boot material can sometimes become gelled, particularly in colder weather.

Upholstery

While the vinyl is made to withstand the elements, it is important to care for vinyl by keeping it clean at all times. Many substances may stain the vinyl if left untreated over a period of time. Remember to remove any contaminant and clean vinyl immediately.

Regular washing with mild detergent (see attached information) and warm water or vinyl cleaners is sufficient to keep the cushion and vinyl coverings in good condition. Do not soak the cushion, and dry thoroughly after washing to prevent mildew accumulations when the boat is covered. Spray the cushions with a mildew repellent and prop them up in the boat when it is covered to take advantage of air circulation.

MasterCraft vinyl is made to withstand the effects of sun, heat, acid rain and soiling, under normal conditions, but this does not preclude the cleaning requirements. Please consult the following cleaning recommendations before cleaning your upholstery.

Certain household cleaners, powdered abrasives, steel wool, and industrial cleaners may cause damage and discoloration, and are not recommended for use. Dry cleaning fluids and lacquer solvents should not be used as they will remove the printed pattern and gloss. Waxes are not recommended, as many contain dyes and solvents that can permanently damage the vinyl's protective coating.

In some instances, consumers have reported the appearance of a pink stain on vinyl that is resistant to various cleaning methods. Although there can be other causes for pink staining in vinyls, most pink stains are caused by dyes produced by micro-organisms. These dyes are metabolic products of the micro-organisms, otherwise known as a form of fungi.

It is virtually impossible for consumers to avoid these micro-organisms as they exist in the atmosphere, which are more prevalent in high-humidity areas. Rain cleanses the air, with the result being that the micro-organisms are deposited on items such as marine vinyl.

While the vinyl is treated to resist the growth of micro-organisms (meaning the vinyl is not a food source), the stain results from failure to properly clean and maintain the vinyl. This means that after use, the upholstery must be cleaned with a soft brush and warm soapy water, followed by a thorough rinse with clean water.

This situation is worsened if the boat is stored without proper ventilation or if the boat cover is put on while the vinyl is still wet, creating a situation in which all forms of fungi (mold and mildew) thrive.

Failure to follow these instructions in the proper care of upholstery may cause your warranty to be voided!

The cleaning table presented in this section is offered only as a suggestion and as an aid in attempting to deal with stains. We do not guarantee that the cleaning methods will work. Stains from any external source are unlikely to be covered by warranty.

Additional Upholstery Cleaning Information

The following information refers to the performance of the upholstery product in specific tests conducted under laboratory conditions. Results may vary under actual conditions. This information is not a guarantee and does not relieve the user from the responsibility of the proper and safe use of the product and all cleaning agents. The use of certain agents can be harmful to the surface appearance and lifespan of the vinyl. The vinyl manufacturer and MasterCraft assume no responsibility resulting from the use of such cleaning agents to the vinyl. Please check compatibility when using this product in combination with painted or varnished surfaces.

Recommended Products

MasterCraft Vinyl Dressing
Vinyl Finish Vinyl Cleaner
Mild Dish Soap
303 High Tech Fabric Guard™

Non-Recommended Products

ArmorAll
Bleach
Baking Soda
Fantastik
Formula 409
Murphy's Oil Soap
Simple Green
Son-of-a-Gun

Common Stains	Steps 1	2	3
General care	A	B	
Dirt build-up	A	B	
Ballpoint ink*	B	A	
Chewing gum	B	A	
Coffee, tea, chocolate	B	A	
Grease	C	B	A
Household soil	A	B	
Ketchup	A	B	
Latex paint	A	B	
Lipstick	C	A	B
Mildew or wet leaves*	B	A	
Motor oil	C	B	A
Oil-based paint	C	B	A
Permanent marker*	B	A	
Spray paint	B	A	
Suntan lotion*	A	B	
Tar/asphalt	C	B	A
Yellow mustard	A	B	

*** Always remove stains immediately. Upholstery must be kept CLEAN AND DRY!**

A = Medium soft brush, with warm soapy water. Rinse and dry.
B = 303 Fabric and Vinyl Cleaner. Rinse and dry.
C = Wipe or scrape off excess (chill gum with ice before starting).

All cleaning methods must be followed by a thorough rinse with clean, warm water. Failure to care for your vinyl properly, or the use of improper cleaners may void your warranty, as well as damaging your vinyl.

Certain household cleaners, powdered abrasives, steel wool, and solvent cleaners can cause damage and discoloration and are not recommended. Dry cleaning fluids and lacquer solvents should not be used as they will remove printed pattern and gloss. Waxes should be used with caution as many contain dyes or solvents that can permanently damage the protective coating.

Do not clean with power washers as they can generate 3,500 P.S.I. and could damage the surface of your interior. Do not use kerosene, gasoline or acetone, as they will remove the protective marine top coat. Do not use any silicone-based protectants. They will extract the plasticizer, leaving vinyl hard and brittle, and eventually cracking will occur.

Your satisfaction is directly related to regular care of the upholstery!

Vinyl upholstery should be covered when not in use to protect from further sun exposure, tree debris, air pollutants and acid rain.

For storage, vinyl should be cleaned, protected, covered and stored in a dry, well-ventilated area.

At MasterCraft we have made every effort to produce the most environmentally friendly products available for our boat care line. We understand that as lovers of the outdoors, we should do our part to preserve our environment for the next generation of boaters.

MasterCraft Boat Care Products

MasterCraft All Purpose Cleaner

MasterCraft All Purpose Cleaner safely and effectively removes grease, oil, cosmetics, glue, blood, mildew, soap scum, ink, bird droppings, spider droppings, scuff marks, pet stains, dust, pollen, fingerprints, food, beverages, sea salt residue and more from all marine surfaces above and below deck. (See Cleaning the Boat section of this Owner's Manual also.) MasterCraft All Purpose Cleaner is ideal for cleaning plastics, rubber, metal, fiberglass, stainless steel, railings, steering wheels and coolers. MasterCraft All Purpose Cleaner will leave surfaces clean and restore optimum brilliance.

Part # 559125.

MasterCraft Boat Cleaner & Polish

MasterCraft Boat & PWC Cleaner & Polish is specially formulated to remove dirt, grease, bugs, bird and spider droppings, road grime from towing, and water spots on contact. This detailer requires no water and leaves a showroom shine that protects against sun damage, ozone damage and dirt accumulation in one easy step.

Part #559129.

MasterCraft Vinyl Dressing

MasterCraft Vinyl Dressing is a one-step formula for the restoration and protection of vinyl, rubber, plastics and leather. When dry, MasterCraft Vinyl Dressing leaves a transparent and water-repellent gloss coating that beautifies and restores surfaces. Its UV protection helps to prevent drying and cracking.

Part #559126.

MasterCraft Glass Cleaner

Formulated specifically for marine applications, MasterCraft Glass Cleaner will leave your marine surfaces streak-free and amazingly clear. Won't harm tinted windows or Eisenglass. MasterCraft Glass Cleaner contains no ammonia, and it is fast drying. Use on windshields, mirrors, chrome and more.

Part #559127.

MasterCraft Bilge Cleaner

MasterCraft Bilge Cleaner is specially formulated to dissolve oil, grease, gasoline, diesel fuel, and sludge. MasterCraft Bilge Cleaner will effortlessly remove those tough odor-causing elements that can make a day on the water less enjoyable. Safe for fiberglass, wood and metal boats, and requires no scrubbing.

Part #559124.

MasterCraft Hull Cleaner

MasterCraft Hull Cleaner is the product of choice for the removal of water stains, iron and metal deposits and marine algae from fiberglass boat hulls and bottoms. This non-acid based cleaner is safe for you, your boat and the environment.

Part #559121.

MasterCraft Spray Wax

MasterCraft Spray Wax is a simple way to give your marine craft that showroom shine while gaining the important UV protection that helps to prevent damage from the sun. Simply spray on and buff off to maintain the original luster and protect your investment.

Part #559123.

MasterCraft Boat Wash & Wax

MasterCraft Boat Wash & Wax is formulated as a premium-grade concentrated boat wash and wax. This super high sudsing formula has superior cleaning and rinsing properties in order to minimize streaking and spotting on cleaned surfaces. It is neutral in pH, and contains no harsh chemicals or phosphates. It will not affect any known finishes including fragile gel coat materials, and leaves a super bright, clear shine after rinsing. Inhibited to prevent corrosion of steel piping and equipment.

Part #559122.

MasterCraft Microfiber Detailing Cloths

MasterCraft Microfiber Detailing Cloths are the product of recent developments in the manufacture and make-up of fine-quality detailing towels. They feature a soft surface that is ideal for high-quality cleaning and detailing. They are perfect for use in drying or polishing your boat, motorcycle, car, or any reflective surface and can absorb up to seven times their dry weight in water. You'll be amazed at how well these cloths work.

Part #559128.

MasterCraft Cleaning & Detailing Kit

The MasterCraft Cleaning & Detailing Kit combines seven different products in a handy reusable bucket. The kit includes MasterCraft All Purpose Cleaner, Glass Cleaner, Boat Wash & Wax, Vinyl Dressing, Boat Cleaner & Polish, Microfiber Detailing Cloths and wash sponge.

Part #559120.

NOTE: The parts order numbers have been provided to aid consumers in placing orders with an authorized MasterCraft dealer. These quality products are available ONLY through an authorized dealer!

Frequency and Scheduled Maintenance

Proper care, maintenance and adjustment will contribute to the peak performance of the MasterCraft boat, while also extending the overall service life and the resale value.

The pages that follow provide instructions on how to accomplish the required checks, inspections and services listed. An authorized MasterCraft service department is the best source for proper maintenance.

Note: The engine and drive train require scheduled maintenance checks and services in addition to the boat's other maintenance requirements. Read and understand the engine owner's manual that has been provided, and follow the maintenance schedule to ensure proper operation and quality service over the life of the boat and drive train. Failure to follow the maintenance requirements and instructions listed in this and all other manuals may result in damage to the components, systems and equipment of the boat, which resulting damage would not be covered by warranty! Safety issues are also directly impacted by proper maintenance!

The following definitions apply to maintenance:

Check—Verify the operational readiness by physical measurement, i.e., measuring the oil level with the dipstick or aligning with a feeler gauge.

Inspect—Determine the operational readiness by examination, i.e., by sight, sound or feel.

Change—Tasks required periodically to keep the boat in proper operating condition, i.e., drain, replenish or service.

MasterCraft Maintenance Service

New Boat Break-In

Note: MasterCraft recommends the following functions be performed by authorized MasterCraft technicians at an authorized MasterCraft dealer.

- Check the alignment of the propeller shaft. (See *Annual Maintenance* also.)
- Have an authorized MasterCraft service department change the fuel filter after the first fifty (50) hours of operation, and then again at one hundred (100) hours for Indmar engines. The fuel filter should be changed annually even if less than one hundred (100) hours are run during the previous season. The Volkswagen diesel engine requires oil and filter changes every two hundred (200) hours, or annually, whichever comes first.

Before Each Use

Before the engine has been started:

- Review the engine manual and trailer manual before each outing.
- Review the *Safety Checks and Services* section of this Owner's Manual. There are important functions that must be followed before, during and after every outing, without fail!
- Inspect the raw water intake water strainer for blockage. If there is blockage, also check the transmission cooler (where equipped).
- For boats operating in salt water, check and clean as necessary the seacock strainer.
- Check the cooling system level (fresh water cooling-equipped boats only). See the engine owner's manual for details.
- Inspect the battery connections and hold-downs.
- Inspect the drive train for loose or missing hardware.
- Inspect the throttle and shift cables for kinks, wear and interference with other components.
- Inspect the propeller shaft log for excessive water entry.
- Inspect the fuel system lines and connections for leaks.
- Inspect the exhaust system for leaks.

As you start the engine:

- Check that the voltmeter registers a fully charged battery.

After Each Use

- Refer to the *Cleaning the Boat* and *Corrosion Prevention* sections of this Owner's Manual for guidance on a thorough approach to maintenance. Also pay attention to the information provided regarding the maintenance of teak platforms and accessories because the wood requires periodic maintenance as well.
- Boats equipped with an optional flushing system for use in salt water or brackish water should operate the flushing system.

Quarterly (Every Fifty [50] Hours)

Note: MasterCraft recommends that the following functions be performed by authorized MasterCraft technicians at an authorized MasterCraft dealer.

Before the engine has been started or after it has cooled:

- Check the safety equipment.

Annually (Every One Hundred [100] Hours)

Note: MasterCraft recommends that the following be performed by authorized MasterCraft technicians at an authorized MasterCraft dealer.

Before the engine has been started or after it has cooled:

- Replace the fuel filter (to be performed by an authorized MasterCraft technician only).
- Check the propeller shaft coupler alignment.
- Lubricate the steering system.
- Lubricate the throttle and shift cables.
- Check the engine mounts.
- Inspect the complete fuel system for leakage.
- Check the fire extinguisher and suppression units on-board.

Details follow in the next few sections.

MasterCraft recommends that many of these functions be performed by authorized MasterCraft technicians at an authorized MasterCraft dealer!

Scheduled Maintenance

Before Each Use

(Prior to Starting the Engine)

Review the *Safety Checks and Services* section of this Owner's Manual. There are important functions that must be followed before, during and after every outing, without fail! The *Safety Checks and Services* notes that all drain plugs must be reinstalled prior to operating the boat!

Inspect Seacock Strainer

(where equipped)

Because a clogged seacock strainer puts undue strain on the engine(s), the strainer should be checked prior to starting the boat. Boats with closed cooling systems are not equipped with this. The seacock strainer is standard on boats built for operation in salt water.

Step 1: Remove the plastic nut on top of the strainer. Lift the cover.
Step 2: Remove the filter and inspect for debris. Manually clean the strainer.
Step 3: Return the filter in place and recover. Tighten the nut, but do not over-tighten as it may eventually strip the threads holding the nut in place.

Inspect the Battery Connections and Hold-Downs

Because poor connections or hold-downs may result in erroneous voltmeter readings, MasterCraft recommends doing this before starting the boat.

Step 1: Ensure the engine is OFF and the engine safety starting switch disconnected. **Be certain that the throttle/shift control lever is in neutral.** Locate the battery. Batteries are placed in a variety of locations, depending on the model. Check under the observer seat or behind the rear seat.
Step 2: Check that the battery post connections are clean and tight. If not:

- Loosen and remove the negative terminal connection first. Be careful not to touch the positive terminal with the wrench.
- Loosen and remove the positive terminal connection.
- Remove the battery hold-downs and remove the battery from the boat.
- Clean corrosion from the battery posts with a battery terminal cleaner.
- Clean the battery with a water-and-baking-soda solution. Use care to avoid allowing the solution to enter the battery vents. Rinse the battery with fresh water.

WARNING

Battery electrolyte fluid is dangerous. It contains sulfuric acid, which is poisonous, corrosive and caustic. If electrolyte fluid is spilled or placed on any part of the human body, immediately flush the area with large amounts of clean water and immediately seek medical attention.

- Use a battery terminal cleaning brush to remove corrosion from the inside of the battery terminals. Clean the terminals with a water-and-baking-soda solution and rinse with fresh water.
- Check the battery box that normally holds the battery in place to determine whether there is evidence of battery fluid inside it. Battery fluids are corrosive and can cause permanent damage to the battery box. If fluid is evident, wash out the box with the water-and-baking-soda solution that is used in cleaning the terminals. Rinse with fresh water and dry with a cloth.
- Reconnect the positive terminal first, then the negative. Tighten the terminals. Coat both terminals completely with a thin covering of marine dielectric grease. Be sure that the rubber boot covers the positive terminal completely.

Note: The boat's engine is designed to work with the standard electronics installed in the boat. Adding other electrical components or accessories can change the way the fuel injection controls the engine or the overall electrical system functions. Before adding electrical equipment, consult an authorized MasterCraft dealer's service department. Otherwise, the engine may not perform properly.

CAUTION

Add-on equipment may adversely affect the alternator output or overload the electrical system. Such damage may not be covered by the warranty.

If a replacement battery is required, be certain to select a marine battery with at least seven-hundred-fifty (750) cold-cranking-amps at zero degrees (0°) Fahrenheit. Before disconnecting the battery, make sure the ignition key and all accessories are in the OFF position. Also remember to reattach the cables in the proper order, with the negative cable connected to the negative [-] post and the positive cable connected to the positive [+] post.

WARNING

When charging, batteries generate small amounts of dangerous hydrogen gas. This gas is highly explosive. Keep all sparks, flames and smoking well away from the area. Failure to follow instructions when charging a battery may cause an electrical charge or even an explosion of the battery, which could result in death or serious injury.

MasterCraft recommends the use of a spiral-cell type battery, such as the Optima brand. These batteries exceed other batteries in holding and extending a charge.

Inspect the Throttle and Shift Cables for Kinks, Wear and Interference

CAUTION

Some engine parts become very hot during operation. This inspection must be completed while the engine is cool to prevent burns to your skin. Perform this task before starting the boat.

Step 1: Ensure the engine is OFF and the engine safety starting switch disconnected. **Be certain that the throttle/shift control lever is in neutral.**

Step 2: Open the engine compartment and locate the throttle and shift cables. Follow each cable back under the floorboards and feel for any kinks and wear on the outer jacket. Any sign of cable damage is cause for replacement. See your authorized MasterCraft dealer's service department if you notice any cable damage.

Inspect the Fuel System for Leaks

This function should be performed prior to starting the engine; and then again after about three (3)-to-five (5) minutes to determine whether any leaks are apparent.

Step 1: First ensure the engine is OFF and the engine safety starting switch is disconnected. **Be certain that the throttle/shift control lever is in neutral.** The engine must be cool.

DANGER

Gasoline is highly flammable and its vapors may ignite, resulting in fire or explosion. Be sure to keep all sparks and flames away from the area while inspecting the boat's fuel system.

Step 2: Open the engine compartment and visually check as much of the fuel system from the tank to the engine as you can see. If the odor of gasoline is strong or if you see visual evidence of fuel outside the system, cease all operations and take the boat immediately to an authorized MasterCraft dealer's service department to determine the source of the leak. The leak must be repaired before the engine is restarted. Because the lines on late model MasterCraft boats are pressurized, they can be disconnected and/or removed ONLY by using specialized tools.

WARNING

The engine box serves as a machinery guard. The engine must be OFF whenever the box is open. Clothing for body parts can get caught in moving parts, causing death or serious injury. Keep away from moving parts!

This is important! Fuel leakage can lead to a build-up of potentially explosive fumes within the engine compartment. DO NOT IGNORE OR OVERLOOK THIS INSPECTION AND REPAIR AS NECESSARY!

Inspect the Exhaust System for Leaks

This function should be performed prior to starting the engine; and then again after about three (3)-to-five (5) minutes to determine whether any leaks are apparent.

Step 1: First ensure that the engine is OFF and that the engine safety starting switch is disconnected. **Be certain that the throttle/shift control lever is in neutral.** The engine must be cool.

WARNING

The engine box serves as a machinery guard. The engine must be OFF whenever the box is open. Clothing or body parts can get caught in moving parts, causing death or serious injury. Keep away from moving parts.

Step 2: Open the engine compartment and visually check the exhaust system from the engine to the transom for any obvious damage to exhaust lines or the muffler.

Step 3: If leakage is apparent, tighten the hose clamps, being careful to avoid crimping the hose. If the leakage is significant, or is occurring at a location other than the joints (such as a split in a hose), see your authorized MasterCraft dealer's service department for parts and service. This is important! **Exhaust fumes can cause illness or impairment, including carbon monoxide poisoning. Equally important to consider, leakage can lead to a build-up of potentially explosive fumes within the engine compartment. DO NOT IGNORE OR OVERLOOK THIS INSPECTION! REPAIR AS NECESSARY!**

Before Each Use

(Prior to Starting the Engine)

Check That the Battery Is Fully Charged

As the boat is started, check all gauges, but pay particular attention to the voltmeter.

While starting the engine, check that the voltmeter reads between 12.4 and 14.5 volts. An erratic reading may be a sign of low voltage. The voltmeter is the best indication of the state of your battery. However, it is not fool-proof. While the reading may indicate that the battery is producing current, if during a previous operation you had reason to suspect a problem with your battery, check with an authorized MasterCraft dealer's service department.

Current models are equipped with a low-voltage battery alarm. In the event that the stereo has been functioning when the boat engine is OFF, the voltage drain on the battery may result in difficulties re-starting the boat. To avoid this situation, when the voltage level falls to 10.5 volts, the system will shut off the stereo system and sound an alarm for a period of two (2) minutes to allow the operator time to turn the ignition key ON and start the engine. Doing so will allow the engine's alternator to recharge the battery.

Charge dead batteries with a battery charger before attempting to start the engine. (Some MasterCraft models offer an optional battery charger; but never jump-start the battery.) **Jump-starting from another boat or battery is dangerous!** Charging a dead battery from an engine will put undue stress on the alternator, which may cause it to fail.

WARNING

When charging, batteries generate small amounts of dangerous hydrogen gas. This gas is highly explosive. Keep all sparks, flames and smoking well away from the area. Failure to follow instructions when charging a battery may cause an electrical charge or even an explosion of the battery, which could cause death or serious injury.

CAUTION

Crossing cables or jumper cables may result in damage to the electrical components due to incorrect battery connections. Such damages may not be covered by your warranty.

Inspect the Propeller Shaft Log for Water Entry

After approximately three (3)-to-five (5) minutes of boat operation in the water, shut off the engine and open the engine compartment. Be careful to avoid burns from contact with hot engine parts. The boat is equipped with a dripless shaft log and if it is showing any signs of dripping, the boat must be taken to an authorized MasterCraft dealer's service department for correction.

WARNING

The engine box serves as a machinery guard. The engine must be OFF whenever the box is open. Clothing or body parts can get caught in moving parts, causing death or serious injury. Keep away from moving parts!

CAUTION

Attention must be paid to any leakage occurring in the propeller shaft log area. Water intrusion into the transmission, which can happen if excessive leakage is occurring may cause serious damage. Such damage may not be covered by the warranty.

Inspect the Exhaust System for Leaks

This function should be performed after about three (3)-to-five (5) minutes to determine whether any leaks are apparent.

Step 1: First ensure that the engine is OFF and that the engine safety starting switch is disconnected. **Be certain that the throttle/shift control lever is in neutral.** The engine must be cool.

WARNING

The engine box serves as a machinery guard. The engine must be OFF whenever the box is open. Clothing or body parts can get caught in moving parts, causing death or serious injury. Keep away from moving parts.

Step 2: Open the engine compartment and visually check the exhaust system from the engine to the transom for any obvious damage to exhaust lines or the muffler.

Step 3: If leakage is apparent, tighten the hose clamps, being careful to avoid crimping the hose. If the leakage is significant, or is occurring at a location other than the joints (such as a split in a hose), see your authorized MasterCraft dealer's service department for parts and service. This is important! **Exhaust fumes can cause illness or impairment, including carbon monoxide poisoning. Equally important to consider, leakage can lead to a build-up of potentially explosive fumes within the engine compartment. DO NOT IGNORE OR OVERLOOK THIS INSPECTION! REPAIR AS NECESSARY!**

Inspect the Fuel System for Leaks

This function should be performed after about three (3)-to-five (5) minutes of running the engine to determine whether any leaks are apparent.

WARNING

The engine box serves as a machinery guard. The engine must be OFF whenever the box is open. Clothing or body parts can get caught in moving parts, causing death or serious injury. Keep away from moving parts!

After three (3)-to-five (5) minutes of operation, shut down the engine and ensure that the engine safety starting switch is disconnected. **Be certain that the throttle/shift control lever is in neutral.** Again, inspect the fuel system as well as possible. Inspect the fuel pump gasket, fastener gaskets, regulator seal and sender gasket for leaks. If the odor of gasoline is strong or if you see visual evidence of fuel outside the system, cease all operations and take the boat immediately to an authorized MasterCraft dealer's service department to determine the source of the leak. The leak must be repaired before the engine is restarted. Because the lines on late model MasterCraft boats are pressurized, they can be disconnected and/or removed ONLY by using specialized tools that are not available to the public.

Reinspect after the fuel tank has been filled full for the first time of the season.

Note that fuel systems vary by model. The pump-in-tank location on top of the fuel tank will resemble one of the two adjacent photos.

This is important! Fuel leakage can lead to a build-up of potentially explosive fumes within the engine compartment. DO NOT IGNORE OR OVERLOOK THIS INSPECTION AND REPAIR AS NECESSARY!

After Each Use

General Cleaning and Storage

Refer to the *Corrosion Prevention* and *Cleaning the Boat* sections of this Owner's Manual. After each outing, the boat should receive a general cleaning and drying prior to being stored. Even if the boat is kept in a slip, owners/operators should wipe down the interior and should periodically remove the boat from the water for a general cleaning.

Inspections

As noted in the Before Each Use section, some functions there need to be performed following use of the boat, such as checking the intake strainer or seacock strainer if evidence has shown that debris collects during the outing. Wet debris is often easier to remove.

Quarterly

(Every Fifty [50] Hours)

Check Safety Equipment

Throughout this Owner's Manual, boat owners, operators and users have been reminded to pay particular attention to any and all safety requirements. At the fifty (50) hour mark, it is appropriate to check that all required and recommended safety equipment be reviewed for condition and repaired or replaced as necessary. This includes all personal flotation devices. It is also advisable to check that all equipment and personal items onboard have been properly stowed and the routine maintenance performed.

These efforts are in your best interest!

Annually

(Every One Hundred [100] Hours)

MasterCraft recommends that your annual—or one hundred (100) hour—maintenance requirements be performed by an authorized MasterCraft dealer. The staff there has the proper equipment and technical training to best meet your service needs.

Annual Maintenance

Some boat owners choose to personally execute some maintenance procedures on their boats. MasterCraft has provided information on several procedures. For safety reasons, a few must be performed by authorized MasterCraft service technicians only, such as anything involving checks and repairs on the fuel line, which is under pressure.

These matters must be addressed on a regular basis, at one hundred (100) hours or annually, whichever comes first, and these procedures are in addition to seasonal preparation and winterization (see Storage and Winterization section for additional details). All of these issues are extremely important to continued boating pleasure, as well as long life for the boat, and the critical matter of safety.

Even if the annual maintenance work is completed by an authorized MasterCraft service technician, boat owners and operators should still review this section and ensure that they have some understanding of what is necessary to keep the boat in top condition.

Check the Engine Mounts

CAUTION

Some engine parts become very hot during operation. This inspection must be completed while the engine is cool to prevent burns to your skin. Perform this task before starting the boat.

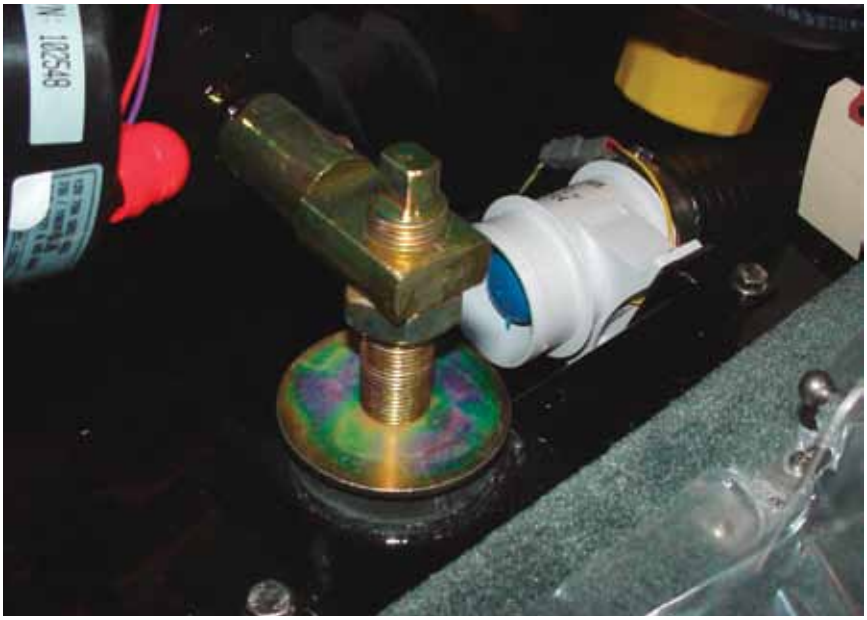
Step 1: Ensure the engine is OFF and disconnect the engine safety starting switch. **Be sure that the throttle/shift control lever is in neutral.** The engine must be cool.

Step 2: Open the engine box and locate the four (4) motor mounts.

Step 3: Check the tightness of the mounting hardware and adjustment lock-nuts. Tighten any loose hardware securely.

Check the Propeller Shaft Coupling Alignment

This function is critical to avoiding unnecessary wear and potential damage to the engine as well as the propeller and propeller shaft. Because it is a complex and exacting part of maintenance, this should be performed only by your authorized MasterCraft dealer as part of your annual maintenance.



Lubricate the Steering System

For cable systems only; hydraulic steering maintenance must be completed by an authorized MasterCraft dealer only! Because this process should be completed while all movable components of the drive train are NOT in motion, MasterCraft recommends this be done while the boat is out of the water.

Step 1: Ensure the engine is OFF and disconnect the engine safety starting switch. Be sure that the throttle/shift control lever is in neutral. The engine must be cool.
Step 2: Remove the access panel in the rear trunk compartment in direct drive boats. In V-drive engines the steering is located in the engine compartment, beneath the engine.
Step 3: Turn the steering wheel so that the maximum amount of steering cable is seen.
Step 4: Use solvent to clean old lubricant from the cable end, pivot and rudder shaft.
Step 5: Spread a generous amount of white lithium grease over the cable end. Work the steering wheel back and forth and re-apply grease if necessary.
Step 6: Using the flexible end of a grease gun, give two (2) full shots of white lithium grease to the two (2) grease fittings: one on the rudder shaft, and one on the pivot. Clean up any old grease purged from the areas.
Step 7: Rotate the steering wheel back and forth several times to work the lubricant in.
Step 8: Re-install the access panel.

Inspect the Exhaust Flaps for Damage

Step 1: Ensure the engine is OFF and disconnect the engine safety starting switch. **Be sure that the throttle/shift control lever is in neutral.**
Step 2: Inspect the exhaust flap hinge for signs of deterioration. Replace the flap if necessary.

Lubricate the Shift and Throttle System

Because this process should be completed while all movable components of the drive train are NOT in motion, MasterCraft recommends this be done while the boat is out of the water.

Step 1: Ensure the engine is OFF and disconnect the engine safety starting switch. **Be sure that the throttle/shift control lever is in neutral.** The engine must be cool.
Step 2: Open the engine box and locate the shift and throttle cable ends.
Step 3: Shift to full-throttle-forward.
Step 4: Lubricate the cable ends and connections with a coating of waterproof marine multi-purpose grease.
Step 5: Lubricate the pivots and linkages with a light grease.
Step 6: Shift the control lever from full-throttle-forward to full-throttle-reverse several times to work the lubricant in.

Check the Ballast Pump Impeller

This applies only to boats equipped with some type of ballast system. The number of ballast pumps varies from system to system. Authorized MasterCraft dealers can provide guidance to locate any and all pumps.

Step 1: Remove two (2) of the cover screws and loosen the third screw. Retain the screws for the reinstallation process. Swing the cover out of the way to allow access to the impeller location.
Step 2: Using needle-nose pliers, pull the old impeller out of the casing.
Step 3: Install a new impeller. (It is intentionally larger than the case. While gently squeezing it in, ensure that the paddle wheels angle in the same direction—counter-clockwise—all the way around.)
Step 4: Slide the plate back into place. No silicone is necessary. Due to the built-in gasket, tightening the screws should prevent leakage.

Inspect the Complete Fuel System for Leakage

Although the boat engine is similar to an automobile engine, the engine compartment differs substantially. The underside of an automobile engine compartment is totally open to the atmosphere. This allows complete air circulation and ventilation. A boat engine is housed in a closed compartment, the underside of which is the bottom (hull) of the boat.

The enclosed engine compartment limits the ventilation of gasoline and oil fumes. Because confined gasoline vapors mixed with a little air can form an explosive atmosphere, it is important to be especially vigilant in performing the following two (2) operations:

Step 1: Inspect the boat bilge area under the engine for the evidence of oil and gasoline—or any gasoline odor. This inspection should take place the first time the boat is started each day. Raise the engine cover and visually look at the bilge area under the engine.

Step 2: Run the bilge blower for at least four (4) minutes to ventilate the bilge area each time before starting the engine.

DANGER

Gasoline is explosive. If a gasoline odor is present or gasoline is visually observed in the bilge area during inspection, DO NOT START YOUR ENGINE! Remove the ignition key from the ignition switch and call an authorized MasterCraft dealer for service.

Note: If there is evidence of loose fuel fittings, deteriorated lines or other problems associated with the fuel system, call an authorized MasterCraft dealer. Fuel system service on later-model MasterCraft boats requires special service tools and special training. Due to the potential for serious consequences when errors occur in servicing the fuel system, MasterCraft strongly encourages all boat owners and operators to seek professional assistance from an authorized MasterCraft dealer's service department whenever any service or perceived problems occur within the fuel system.

CAUTION

All replaced fuel components must meet United States Coast Guard ("USCG") and American Boat & Yacht Council, Inc. ("ABYC") standards, and must be Underwriter's Laboratory ("UL")-approved. Inferior quality components pose a serious safety threat to you and others, and the use of inferior components may result in serious injury or death. Resulting damage may void the warranty.

Some MasterCraft models are equipped with a fuel fill cap such as shown here. These caps are hinged, and they snap open or closed to seal with an audible click. This is important for the system on these boat to operate correctly. Be sure to fully snap shut the cap after each fill.

Fire Extinguisher and Suppression Units

MasterCraft recommends that boat owners include a check of the fire suppression and extinguisher units during the annual maintenance to be sure that they are always ready for use. Some units may not require annual checks; refer to the signage and labeling on the individual units for further guidance.

Other Maintenance

Boat owners are required to perform routine regular maintenance as well as annual requirements, as outlined in the engine owner's manual. Some standard or optional equipment on boats may come with their own printed information that includes maintenance required to keep such components in excellent long-term operating condition. Always follow these instructions.

Storage or winter lay-up requires special preparation to prevent damage to the boat. Since winter storage is an annual event, it presents an excellent opportunity to perform the annual maintenance at this time, depending upon the amount of usage. Check with an authorized MasterCraft dealer's service department regarding the boat's needs to determine if this is the appropriate time for annual service.

Without proper preparation, storage for long periods of time (at any time of the year) may cause harm to various components of the boat and drive train. Also, if the boat has been stored in below-freezing temperatures with water inside the bilge or engine cooling system (including the heater or, shower, ballast tanks, wash down tanks, coolers, or any container or area in which water has been located), this condition may result in major damage from freezing, which would not be covered under the warranty.

Refer to the engine owner's manual for guidance regarding storage and winterization of the engine, transmission and components of the drive train.

The following procedures will help avoid most potential types of damage during storage for a period not to exceed five (5) months!

Storage and Winterization

CAUTION

Because of the complexity of preparing a boat for proper winter storage, as well as the possibility of extreme damage to the drive train if a preparation error was made during winterization, MasterCraft recommends scheduling an appointment with an authorized MasterCraft dealer's service department to permit a technician to perform all winterization procedures.

General Preparation

Before starting you will need the following supplies:

- Sta-Bil® Gasoline Stabilizer
- Fuel filter
- Low tack tape

Fuel System Treatment

This preparation needs to be done prior to removing water from the engine, if that will be part of the process.

Boats that are going to be stored for extended periods (more than forty-five [45] to sixty [60] days) or winterized should have attention for the fuel system. Even TOP TIER gasolines will experience some separation of elements and settling during these periods. Of considerable concern is that water condensation will occur within the fuel system, and water is an enemy of good-starting and running engine fuel systems. Therefore, follow this procedure:

- The fuel tank should be ninety-to-ninety-five percent (90-95%) full of TOP TIER gasoline. This allows for minimal room in which air can oxygenate the fuel during diurnal cycles (daily periods of expansion/contraction of gasoline vapors and air as a result of temperature changes). As temperatures rise in the tank, the pressure also rises, pushing out gasoline vapor-and-air mixtures. When the temperature falls, pressure lowers and the system will seek to draw fresh air and water vapor (depending on the humidity level) into the tank. Fresh air is replaced with "light ends," which are low-boiling components that vaporize at ambient temperatures. Light ends are required during cold starts to vaporize the fuel. Since the daily diurnal cycles eliminate the light ends, a nearly full tank helps to minimize the air volume entering the system.
- Add a biocide additive in the fuel tank to limit microbial growth in gasoline. Follow the directions provided by the stabilizer's manufacturer.
- Add a fuel stabilizer, such as Sta-Bil®, to the fuel tank. Follow the directions provided by the stabilizer's manufacturer.
- Run the engine for at least fifteen (15) minutes while in a body of water. This allows for the circulation of the additives throughout the fuel system.
- If possible during storage, the tank vents should be sealed. If the vent is sealed, the tank must NOT be completely filled. A ninety-to-ninety-five percent (90-95%) filled tank allows room for expansion, which will be required at certain times when temperatures increase. The hydrocarbons in gasoline react with naturally occurring oxygen and create a by-product known as "gum." The substance, as the name infers, plugs up fuel filters and injectors. Sealing the tank helps reduce gumming by significantly limiting the amount of oxygen available for interaction with the hydrocarbons.

WARNING

Completely filling the fuel tank prior to storage and then sealing the fuel tank vent does not allow room for necessary expansion. This can result, in extreme conditions, in fuel tank rupture. Such release of fuel into the boat and potentially into the storage area could result in substantial damage to the boat and contact with any spark (such as a flame-producing pilot light in a heater) could also result in property damage and serious injury or death.

It is desirable to keep the fuel's temperature below 80 F. (26 C.) The gumming will increase as temperatures increase.

Note that fuel stabilizers work ONLY in fresh gasoline. Stabilizers will not cure oxygenated gasoline. Adding a stabilizer when the boat is being prepared for outings after storage will NOT clean the gumming

that has occurred or remove water from the fuel tank or otherwise eliminate any problems that have occurred due to failure to properly prepare the fueling system for storage.

Engine manufacturers suggest using Federal or State of California reformulated gasoline whenever possible as it stores as well or better than conventional gasoline.

Even quality gasoline that has been properly prepared for storage should never be stored for a period to exceed one (1) year.

CAUTION

Fuel systems on all boats MUST be properly prepared for storage periods exceeding two (2) weeks, as outlined in this Owner's Manual. Failure to do so will void the warranty.

General Power Package Preparation

Step 1: Lubricate the throttle and shift linkages and cables with multi-purpose grease.

Step 2: MasterCraft recommends that batteries be removed from the boat for winter storage. Batteries should be fully charged before being stored in a cool, dry location, protected from the elements and fully re-charged before being re-installed in the boat. **Never store batteries close to heat, spark or flame-producing devices.**

Step 3: Leave the engine box cover propped open about two inches (2") to ventilate the engine compartment.

Other Winterization Preparations

Step 1: Remove the bilge drain plug immediately after taking the boat out of the water. After a general bow-to-stern washing, raise the bow of the boat higher than the stern to allow as much water as possible to drain from the bilge, while performing other storage preparations.

Step 2: Thoroughly clean the hull, deck and interior of the boat as soon as it is removed from the water. Cleaning at this time is easier because any marine growth is still wet. Be sure to allow a few days of air drying to prevent mildew that results from trapped moisture. (See the Cleaning section of this Manual.)

Step 3: Apply a coat of wax to the entire surface of the boat. We suggest MasterCraft Premium Marine Wax for excellent coverage.

Step 4: If the boat is equipped with a heater, shower or ballast bags/tanks, be sure to disconnect the hoses and drain any remaining water in the lines to avoid freezing. Even small amounts of water in any of these areas can cause significant damage upon freezing and such damage is not covered under the warranty!

Note: Be sure that hoses will not become entangled in the engine V-belt when the engine turns over or the hose and/or the belt will be damaged.

Step 5: Use duct tape to seal the exhaust flaps to prevent dirt and nesting rodents from entering.

Step 6: On CSX 265 models equipped with the hot water heater, any water in the tank must be removed to avoid the risk of freezing and damage to the tank. The water pumped into the heater comes from a freshwater holding tank, and it can be left in the water heater when the boat is not in use, EXCEPT during extended periods of storage. As with any part of the boat in which there is water, it must be removed at the time the boat is winterized to avoid freezing that may cause damage to the boat, the holding tank or the water heater. The water is removed by running the shower until all the water has come out or by disconnecting the plumbing fittings in the forward service bay under the helm seats.

Step 7: On 255V, X-55, 280V and X-80 equipped with heads, clean the tanks with a mild cleaner or warm soapy water that will not harm the finish. Avoid all petroleum-based household cleaners. Store the head dry and clean. Failure to do so may cause unnecessary odors and damage to the tanks, and this is not covered under warranty.
If using anti-freeze in this head, drain the potable water tank and add freshwater anti-freeze to the potable water tank. Flush the anti-freeze and water mixture through the head and into the waste holding tank. Then empty the holding tank. Never use automotive-type anti-freeze in this freshwater system.

Step 9: If the tower will be lowered during storage, be certain that the tower does not rest on the boat upholstery or on any support that rests on the upholstery. The tower or support(s) may leave a permanent imprint on the upholstery. This is not covered under warranty.

Step 10: Cover the boat with a boat cover or tarp.

Note: If the boat is to be stored outside and subject to accumulations of snow, water and ice, a support should be made for the boat cover so that it will not sag, rip or tear, thereby allowing water to enter the boat. Two-inch diameter PVC plumbing pipe is ideal for this purpose. It is readily available at local hardware stores, and it is easy to work with. Also, its rounded shape will prevent damage to the canvas.

Ballast System Preparations

Step 1: Attach a hose to the starboard side ballast hose that comes out of the deck at the rear seat.

Step 2: Place the other end into a gallon of non-toxic, RV-type anti-freeze.

Step 3: Turn the pump on to empty and pump anti-freeze into the system until anti-freeze comes out of the thru-hull on the side.

Step 4: Turn the pump on to fill and pump anti-freeze back into the jug.

Re-Activating the Boat After Storage

Step 1: Remove the duct tape from the exhaust flaps.

Step 2: Fully charge the battery and install it in the boat, following all safety precautions associated with changing batteries.

IMPORTANT NOTE: Often, batteries that have been stored over winter will require re-charging. If the battery is charged by utilizing a battery charger, use only a three-stage or more battery charger. It is important that the operator never turn a battery charger immediately to "start," as the sudden jolt of voltage may cause damage to the electrical system, particularly control modules for ballast system. Regardless of whether it is during the re-activation process or at any time, care should also be used in charging the battery.

Step 3: Follow all instructions for reactivating the drive train as detailed in the engine owner's manual. NOTE: Due to the complex nature of the reactivation process, MasterCraft recommends having an authorized MasterCraft dealer perform this function.

Step 4: Ensure that all drain plugs throughout the boat and drive train have been reinstalled to avoid unwanted intrusion of water.

Step 5: If applicable, reconnect the hoses to your heater or shower.

Step 6: Check the engine compartment and bilge for signs of nesting animals. Clean as necessary.

Step 7: Check the entire engine system for fluid, oil and coolant levels. Add as necessary.

Step 8: Check the entire engine for cracks or leaks caused by freeze damage.

Step 9: Check all hose clamps for tightness. Install the bilge drain plug and the rear drain plug in boats equipped with certain types of ballast systems.

Step 10: Grease the propeller shaft taper and install the propeller.

Step 11: Fully re-charge and re-install the battery or batteries.

Step 12: Perform the daily maintenance as noted previously in this Owner's Manual. If it was not done prior to storage, perform the annual maintenance as well.

Step 13: If the boat is equipped with the optional fresh water cooling system and was drained for storage, fill the system with fresh coolant solution per instructions.

Step 14: Check the alignment between the output flange on the transmission and the propeller shaft flange. If the maximum feeler gauge that can clip between the flange faces at any point is 0.003", the unit is properly aligned. If a thicker gauge can be inserted at any point, the engine must be re-adjusted until proper alignment is obtained. This should be performed by an authorized MasterCraft dealer's service department.

Step 15: For all models, with the boat in the water, cycle the key ON and then OFF two (2) or three (3) times, allowing ten (10) seconds between key cycles, before cranking the engine. This allows the fuel pump to prime the fuel lines; then start the engine. In the event the engine does not respond, allow a two-minute cool-down period for every thirty (30) seconds of cranking. When the engine fires, keep a close watch over the gauge readings and check for leakage and abnormal noises. Keep speeds low for the first fifteen (15) minutes to allow the engine to reach normal operating temperatures.

Step 16: In ProStar 197s equipped with ballast bags, when reconnecting the hook-ups, be sure to squeeze the prongs to help slide the connector back on. Dish soap or some similar product will help slide the connects back together. Note that the red ring goes over the raised ring to ensure a working connection.

Propeller Maintenance

Propeller damage is caused by striking solid objects. If the propeller is not rotating at the time it strikes a solid object, the damage is usually confined to just one blade and may be difficult to see. If the propeller is rotating when it strikes an object, usually the resulting damage can easily be seen on all blades.

Checking/Repairing Propellers

Step 1: Ensure the engine is OFF and the emergency safety stop switch is disconnected.

Step 2: Clamp a small rule scale to the shaft strut, parallel to the shaft so that the end of the scale is 3/32-inches from the leading edge of a propeller blade.

Step 3: Rotate the propeller slowly. There should be no more than 3/32-inch variance between the blades. If the propeller is damaged, see an authorized MasterCraft dealer.

Changing Propellers

Step 1: Ensure the engine is OFF and the engine safety starting switch is disconnected.

Step 2: Remove and discard the cotter pin.

Step 3: Remove the propeller nut.

Step 4: Tap the center hub of the propeller with a rubber mallet to release the propeller. Inspect the shaft and propeller splines for damage.

Step 5: Thoroughly clean and apply a light coat of waterproof marine multi-purpose grease to the splined area of the shaft and propeller.

Step 6: Align the splines and carefully install the propeller onto the shaft. **DO NOT FORCE THE PROPELLER INTO PLACE.**

Step 7: Install the propeller nut and torque to 50-ft-lbs.

Step 8: Install a new cotter pin and bend the ends around the shaft to lock the propeller on the shaft.

The following chart will assist you in finding and correcting minor mechanical and electrical problems with your MasterCraft boat. Engine manuals include troubleshooting suggestions regarding drive train issues.

To correct a problem, first determine what the symptom is. Start with the first cause and eliminate the possibility of each until the problem is corrected. Due to the specialized skill and tools needed to correct major issues, that information has not been discussed below. If a problem is not addressed herein, please contact an authorized MasterCraft dealer's service department.

When experiencing a problem, check the surroundings before shutting down the boat. If a sudden stop would place other boaters in jeopardy, continue on until it is safe to slow or stop to analyze the situation. Always be aware of the surroundings and how actions may impact other boaters!

Throttle/shifting problems.	Corroded cables. Low transmission oil level. Sticking transmission shift detent ball. Kink in cable(s).	Clean and lubricate the cables or replace. Replenish transmission fluid. Clean and lubricate the detent ball. Have authorized MasterCraft technician replace the cable(s).
Steering problems.	Corroded cable. Rudder worn.	Clean and lubricate the cable or replace. See authorized MasterCraft dealer's service department.
Excessive vibration.	Bent strut. Fouled propeller. Damaged propeller. Misaligned propeller shaft coupling. Bent propeller shaft.	Replace the strut. Remove objects from the propeller shaft and rudder. Replace the propeller. Seek proper alignment. See authorized MasterCraft dealer's service department.
Electrical problems.	Open circuit breaker or blown fuse. Loose wiring connections or corrosion. Defective sending unit. Shorted wiring harness. Defective switch or gauge.	Re-set the circuit breaker or replace the fuse. Clean and tighten wiring connections. Replace the sending unit. Have the wiring harness repaired. See authorized MasterCraft dealer's service department.
No speedometer reading.	Defective speedometer. Defective speedometer paddle wheel.	Have the speedometer checked or replaced. Have paddle wheel checked or replaced.
Incorrect speedometer reading.	Improper calibration.	Follow calibration instructions in *Instruments and Gauges* section of this Manual.
Gauges do not work or the accessory does not work.	Breaker has tripped. Fuse has blown. Low battery. Insufficient battery supply.	Re-set the breaker. Replace the fuse. Check the battery voltage for a loose ground. Replace battery with one that has at least 750CCAs.

Troubleshooting

Limited Warranty Statement

MasterCraft BOATS

Limited Warranty Statement

1. **Disclaimer and Limitation of Implied Warranties.** THE EXPRESS LIMITED WARRANTY SET FORTH HEREIN IS IN LIEU OF ALL OTHER WARRANTIES AND REPRESENTATIONS, EXPRESS OR IMPLIED, AND TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, MASTERCRAFT DISCLAIMS, AND THE OWNER HEREBY EXPRESSLY WAIVES, ANY AND ALL OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND OR NATURE, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, OTHER THAN THOSE WARRANTIES WHICH ARE IMPLIED BY, AND ARE INCAPABLE OF EXCLUSION, RESTRICTION OR MODIFICATION UNDER APPLICABLE LAW. THE TERM OF ANY IMPLIED WARRANTIES THAT CANNOT BE DISCLAIMED UNDER APPLICABLE LAW, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO THE DURATION OF THE EXPRESS WARRANTY PERIODS APPLICABLE TO THE RESPECTIVE COMPONENTS. SOME STATES DO NOT ALLOW THE EXCLUSION OF IMPLIED WARRANTIES AND/OR DO NOT ALLOW LIMITATIONS ON THE AMOUNT OF TIME AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

2. **Limited Warranty and Term. MasterCraft Boat Company, LLC.** ("MasterCraft") warrants to the original retail purchaser that the following components of each new boat shall be free from material defects in materials and workmanship to the extent set forth below, under normal use and when operated and maintained in accordance with MasterCraft's instructions, for the period indicated:

   2.1. **Deck, Hull, Liner and Stringers.** From the date of the original retail purchase, the deck, hull, liner and stringer system (collectively, "Structural Components") is warranted for as long as the original purchaser owns the boat.

   2.2. **Gel Coat.** On condition that the consumer has provided maintenance and care as described in the Corrosion and Cleaning the Boat sections of the MasterCraft Owner's Manual, the gel coat, which is applied to all MasterCraft boats at the factory, will be warranted for a period of one (1) year from the date of the original retail purchase of the boat or the initial use of the boat, whichever first occurs, for stress crazing of the gel coat. However, no warranty is provided, and MasterCraft expressly disclaims any warranty for, scratching, discoloration or fading of the gel coat because environmental operating conditions and customer maintenance/care are factors that have a significant effect on the condition and durability of the gel coat.

   2.3. **Other Component Parts (Excluding Engine and Transmission.** MasterCraft provides the following warranty for other component parts of your MasterCraft boat:
   (a) Instrumentation is warranted for three (3) years, except depth finders and Zero Off;
   (b) marine carpeting for five (5) years;
   (c) upholstery vinyl material for five (5) years, plus upholstery stitching for one (1) year; and
   (d) fuel pump assembly for two (2) years provided the customer follows maintenance and care requirements.
   All other components (excluding engine and transmission), including upholstery stitching, are warranted for a period of one (1) year. All warranties are from the date of the original retail purchase of the boat or the initial use of the boat, whichever first occurs.

   2.4. **Trailer and Trailer Component Parts.** MasterCraft trailers have their own Limited Warranty Statement, which can be found in the MasterCraft Trailer Owner's Manual that accompanies trailers as they are delivered.

2.5. **Warranty Period.** All express warranties are for the time period set forth in this Section 2, unless a longer warranty period is required by applicable law, in which case such longer warranty period will apply.

3. **Engine and Transmission.** The engines used in MasterCraft boats are supplied by ILMOR-MARINE L.L.C., in Mooresville, North Carolina ("ILMORMARINE"); or Volkswagen Marine Engines in Tampa, Florida ("Volkswagen Marine"). These companies provide a separate warranty of three (3) years from the date of the original retail purchase of the boat or the initial use of the boat, whichever first occurs, for the engine and transmission. A statement of the Indmar Power Train Warranty, ILMORMARINE Limited Warranty or the Volkswagen Marine Warranty is provided separately to the original retail purchaser. MasterCraft provides no independent warranty with regard to the engine and transmission; however, the owner may contact MasterCraft at the address or telephone number listed in Section 7 of this Limited Warranty to obtain contact information for making claims or inquiries under the applicable engine manufacturer's warranty. Contact information for Volkswagen Marine is provided in the warranty statement provided at the time of purchase to the original retail purchaser.

4. **Warranty Conditions, Limitations and Exclusions.** MasterCraft boats are manufactured by trained craftspersons from high-quality materials and components. However, conditions outside MasterCraft's control require specific limitations on, and exclusions from, coverage under this Limited Warranty. The Limited Warranty on the Structural Components set forth in Section 2 of this Warranty does not cover or include any other components fastened or applied to the hull or deck. This Limited Warranty constitutes the final, complete and exclusive statement of warranty terms, and no other person or entity is authorized to make any other warranties or representations on behalf of MasterCraft. Furthermore, the Limited Warranty set forth in Section 2 (including all subsections) hereof does not cover the following:

(a) damage caused by misuse, negligence, accident; collision or impact with any object;
(b) damage caused by any improper alteration or modification to the boat or any of its component parts or accessories, including damage resulting from alteration, modification, repair or replacement in such a way as to increase the cubic-inch capacity or horsepower output of the engine and boat as originally manufactured;
(c) damage caused by the use of improper or contaminated fuel or fluids;
(d) damage caused by the use of customer-applied chemicals or accidental spills;
(e) damage caused by failure to maintain the boat in accordance with the maintenance provisions in the Owner's Manual or improper maintenance of the boat;
(f) damage caused by the failure to comply with any recall or request for repair;
(g) damage resulting from the use of the boat for any racing, speed, commercial competition or performance demonstration;
(h) damage resulting from use of the boat for rental, commercial or industrial purposes;
(i) damage to hardware and other components fastened or adhered to the hull, deck or liner;
(j) damage caused by fire, theft, freezing, vandalism, explosion, lightning, wind, hail storms, flooding or other natural disaster;
(k) damage to any component parts and accessories not manufactured by MasterCraft, including but not limited to, the engine, drivetrain, transmission, propeller, shift and throttle control levers and cables, pumps, blowers, windshields, canvas, upholstery, tower and accessories, instrumentation and steering systems; however, such items may be warranted by the individual manufacturer, and if possible, MasterCraft will provide the owner with a copy of the manufacturer's warranty:
(l) damage caused by use of any non-MasterCraft trailer;
(m) damage caused by improper support of the boat on davits, hoist system or boat lift of any kind;
(n) damage to paints, varnishes, gel coat surfaces and colors, chrome-plated or anodized finishes, floor and floor covers and any other surface coatings, as well as damage due to in-water storage without proper barrier coat and bottom paints (NOTE: Although MasterCraft uses the highest-grade gel coat materials, a condition may develop where the bottom of the boat may show signs of discoloration and/or blisters if the boat is left in the water for long periods of time, which is defined as in excess of thirty (30) days); therefore, a proper barrier coat and bottom paint should be used whenever it is anticipated that the boat will be left in the water for an extended period of time);
(o) damage to the trailer and its parts or components due to abrasions, rock chips, rust, improper care or maintenance, or use in salt or brackish water; however, the finishes of galvanized trailers, which are designed for use in salt or brackish water, are warranted to be free from damage resulting from use in salt or brackish water for one (1) year from the date of the original retail purchase or the initial use of the trailer, whichever first occurs;
(p) damage caused by dealer-installed options or accessories;
(q) damage caused by consumer-installed options or accessories; and/or
(r) all warranty coverage will expire after ninety (90) days on boats used for commercial purposes.

5. Limitation of Liability.

5.1. Liability Limitation: Exclusion of Consequential Damages. This Limited Warranty is for the benefit of the owner and MasterCraft, and shall not create or evidence any right in any third party. THE REPAIR OR REPLACEMENT OF DEFECTIVE COMPONENT PARTS AS PROVIDED UNDER THIS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT SHALL MASTERCRAFT BE LIABLE FOR ANY INCIDENTAL, CONSEQUENTIAL, SPECIAL, INDIRECT, PUNITIVE OR EXEMPLARY DAMAGES OR LOST PROFITS WHATSOEVER ARISING OUT OF THE USE OR INABILITY TO USE THE BOAT OR ANY COMPONENT PART THEREOF, OR FOR ANY BREACH OF THIS LIMITED WARRANTY OR OTHERWISE, EVEN IF MASTERCRAFT HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD REASONABLY HAVE BEEN FORESEEN BY MASTERCRAFT. However, some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

5.2. Purchase Price Limitation. In any event, MasterCraft's entire liability under any provision of this Limited Warranty shall be limited to the repair or replacement of the boat, trailer or component part, or the refund of the purchase price paid by the consumer for the boat, trailer or component part found to be defective within the applicable warranty period. This shall constitute MasterCraft's sole liability and obligation in the event of any claim arising out of its performance or nonperformance of any provision of this Limited Warranty. Because some states and jurisdictions do not allow the exclusion or limitation of liability, the above limitations may not apply to you.

6. Transfer of Limited Warranty. Upon the first sale, conveyance or other transfer of the boat or trailer by the original retail purchaser, any remaining unexpired Limited Warranty coverage shall be transferred to the second owner and shall remain in effect for the remainder of the applicable warranty period(s) set forth in Sections 2.1, 2.2, 2.3 and 2.4 hereof (which warranty periods begin to run from the date of the original retail purchase of the boat or trailer, or the first use of the boat or trailer, whichever first occurs, as applicable), upon delivery of the warranty transfer card and payment of the applicable warranty transfer fee to MasterCraft. With respect to the Lifetime Limited Warranty (granted only to the original retail purchaser) on the Structural Components set forth in Section 2.1 hereof, if the sale, conveyance or other transfer of the boat by the original retail purchaser to another person or entity occurs within three (3) years of the date of the original retail purchase of the boat by the original retail purchaser, then the Limited Warranty on the Structural Components shall be transferred to the second owner and shall continue in effect for a period of ten (10) years from the date of the original retail purchase of the boat by the original retail purchaser. If the sale, transfer or conveyance of the boat by the original retail purchaser occurs more than three (3) years after the date of the original retail purchase of the boat, then the Limited Warranty on Structural Components (as well as all other warranties) shall be void as of the date of transfer and shall not be transferable to the second owner.

Only one (1) transfer under the provisions of this Section 6 (from the original retail purchaser to the second owner), within the applicable time period, may be made. In the event of a sale or transfer of the boat or trailer by a second owner to a subsequent purchaser, all coverage under this Limited Warranty shall immediately be terminated and the Limited Warranty shall become null and void. No transfer of this Limited Warranty will operate to extend the warranty periods set forth in Section 2 hereof. In order to effectuate the transfer of the Limited Warranty, the original retail purchaser and the new owner must properly fill out the warranty transfer card found in the back of the Owner's Manual and deliver the completed card, together with a check made payable to "MasterCraft Boat Company, LLC." in the amount of the warranty transfer fee, via U.S. Mail, postage prepaid, to MasterCraft at the address shown on the warranty transfer card. The card and check for the warranty transfer must be post-marked within the time period specified above in this Section 6 in order for the warranty transfer from the original retail purchaser to the second owner to be effective.

7. **Warranty Claims.** In order to maintain warranty service under this Limited Warranty, the owner must return the defective boat or component part to an authorized MasterCraft dealer's service department, or to MasterCraft's factory at the below address, within the applicable warranty period. For questions regarding warranty service or to obtain information regarding warranty service or to obtain information regarding the nearest authorized MasterCraft dealer, please contact MasterCraft at the following address or telephone number:

MasterCraft Boat Company, LLC
Attention: Warranty/Customer Service Department
100 Cherokee Cove Drive
Vonore, Tennessee 37885
1-423-884-2221

Subject to the terms of this Limited Warranty, any covered boat or component part with a material defect in materials or workmanship that is returned to an authorized MasterCraft dealer's service department or MasterCraft's factory during the appropriate warranty period will be repaired or replaced, at MasterCraft's sole option, without charge to the owner for parts and labor. This provision is subject to the following terms and conditions:

(a) MasterCraft shall be obligated only to repair or replace those items that prove defective, in MasterCraft's sole discretion, upon examination by a MasterCraft authorized dealer service department or MasterCraft's own personnel, as applicable;
(b) MasterCraft warrants its repairs or replacements only for the remainder of the applicable warranty period;
(c) MasterCraft shall, in its sole discretion, fulfill its obligation to repair or replace any defective item at its factory or authorized service department;
(d) The owner shall be responsible for all costs associated with the transportation of the boat, towing bills, trailer or component part(s) to the authorized MasterCraft service department and for any return transportation.

8. **No Modification of Warranty.** No oral or written information, advice or communication of any nature by or from MasterCraft or its representatives, employees, dealers, agents, distributors or suppliers shall create a warranty or in any manner increase or modify the scope of this Limited Warranty in any manner whatsoever.

Warranty Registration and Transfer

For the first purchase of a specific MasterCraft boat, the boat must be registered. You should be aware that under federal law, completion of the registration process is a requirement and should be completed as follows:

1. Dealer must complete the warranty registration at date of sale.
2. Dealer must secure buyer's signature!
3. Dealer must notify MasterCraft, via electronic registration that the boat has been purchased, and all required information must be submitted. As boat owner, you should ensure that the dealer has complied with this requirement. This is the method of providing information that will allow MasterCraft to notify you in case of any mandatory recalls or other issues requiring your attention.

If the MasterCraft boat is subsequently sold by the original purchaser, MasterCraft offers a transferable warranty to the second owner. In accordance with the MasterCraft Limited Warranty, the remaining warranty against structural defects in the hull and deck will be transferred to the new owner when the following has been accomplished and verified within fourteen (14) days of the sale date:

- Receipt of the completed form below.
- Copy of the sales invoice.
- Payment of $450.

Upon verification, the remaining warranty will transfer, retroactive to the sale date.

Forward form and payment to:
MasterCraft Boat Company, LLC
100 Cherokee Cove Drive
Vonore TN 37885

Warranty Registration Transfer

(forward this copy to MasterCraft)

Boat Serial Number _____

Model No. _____

Engine Make _____

Serial No. _____

Trans. Type _____

Serial No. _____

Please Print

Previous Owner _____

New Owner's Name _____

Street Address _____

City _____

State _____ **Zip Code** _____

Home Phone (_____) _____

Business Phone (_____) _____

Date of Purchase _____

Second Owner's Signature _____

MUST BE SIGNED!

Be sure to enclose payment and a copy of the purchase receipt within fourteen (14) days of the sale date.

Service Log

As Needed	*Date*	*Date*	*Date*	*Date*
Replace raw water impeller				
Replace ballast impeller(s)				
Add/change oil filter				
Every 50 Hours	*Date*	*Date*	*Date*	*Date*
Lubricate starter gear and shaft				
Change engine oil and filter				
Check all safety equipment				
Every 100 Hours	*Date*	*Date*	*Date*	*Date*
Replace impeller				
Engine tune-up				
Change transmission fluid				
Check engine mounts				
Check prop shaft coupling alignment				
Inspect exhaust flaps				
Lubricate steering system				
Lubricate shift and throttle system				
Check/replace ballast pump impeller				
Inspect complete fuel system				
Change fuel filter				

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